

February, 1958

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**USSR Seeks Zone
of Cessation ... p1**

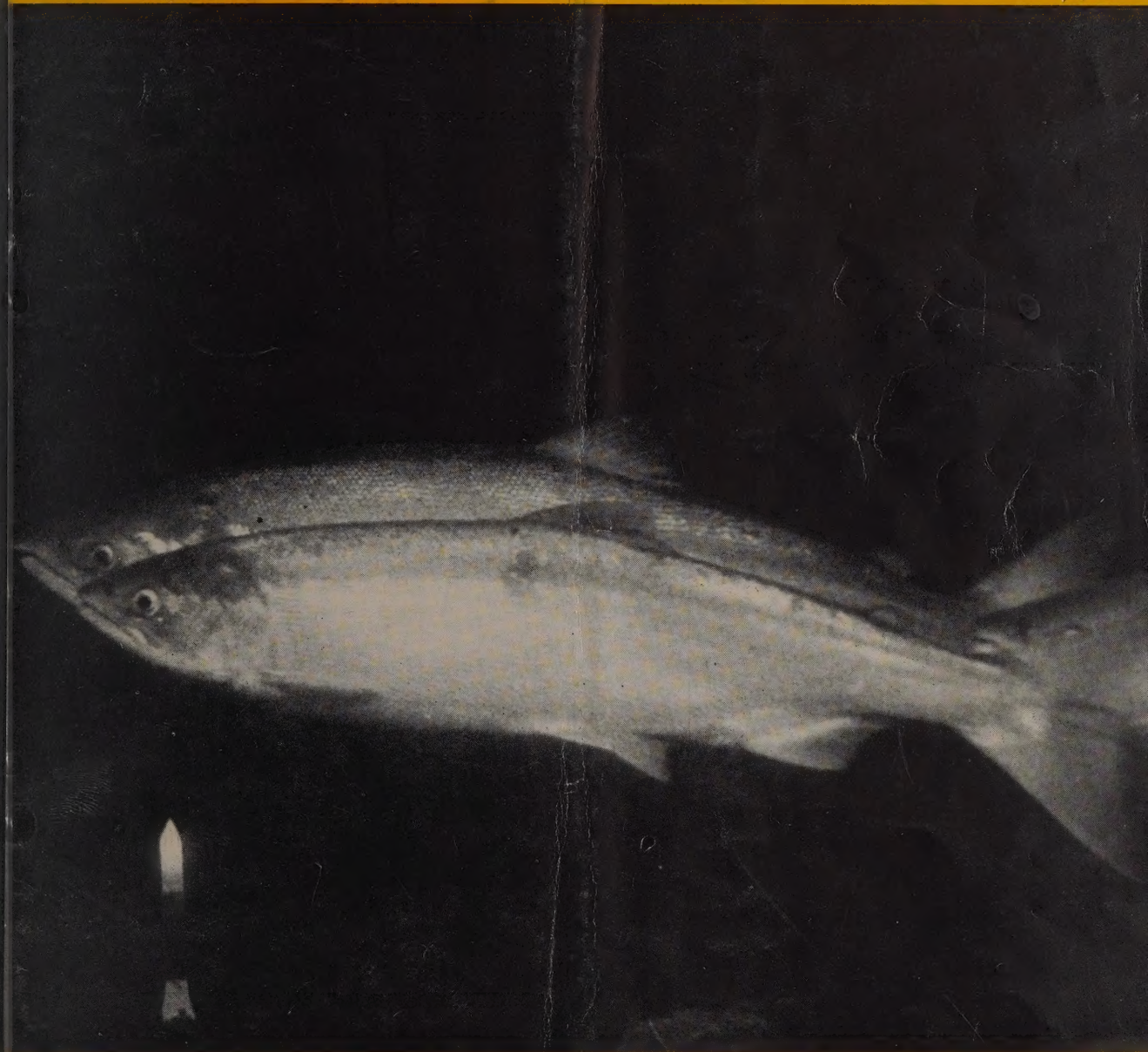
GENEVA and WASHINGTON

**Every Fisherman
Has a Stake ... p5**

PACIFIC FISHERMAN

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GOIN' TOGETHER—IT MUST BE LOVE. A pair of Red salmon, the big male behind, swim up the Nushagak to their spawning ground. The bright arrow is a point for focusing the camera in this underwater photograph by W. F. Thompson.



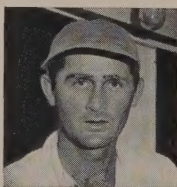
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USSR Seeks Cessation Zone in Okhotsk Sea

● Soviet Russia's program for Japanese high seas fishing operations during the 1958 season, as enunciated to the Japanese delegates at the Russo-Japanese Fisheries Commission meeting in Moscow in January called for these specific limitations:

1. The fishing season to close earlier than in 1957, probably July 20 instead of Aug. 10.
2. High seas fishing vessels never to operate less than 40 miles from shore, as compared with 20 miles permitted in some areas in 1957.
3. All gillnets to be of larger mesh than heretofore. (Specific size specifications not available to this journal.)
4. Longline salmon fishing to be prohibited voluntarily by Japan.
5. Fishing for both Reds and Pinks must be controlled to permit increased escapement to streams in Soviet territory.

6. Serious decline of the Pink runs to southwestern Kamchatka requires cessation of fishing for Pinks in the Okhotsk Sea.

● The Japanese delegation proposed a 1958 catch quota for the Soviet-Japan treaty area of 145,000 tons of salmon. Two weeks after the opening of the commission meeting Radio Moscow broadcast:

"Japanese representatives proposed a catch quota of 145,000 metric tons of salmon. We cannot help but think the Japanese are eluding the obligation they bear under the fishery treaty.

"Last year the Soviet side agreed to setting the quota at 120,000 metric tons—a great concession as a specific exception for 1957 alone, because the 1957 commission meeting recognized

that 1957 would be a big year for salmon.

"The proposition of the Japanese fishing companies to obtain tonnage such as they suggest is an unrealistic one, to speak frankly. The tonnage proposed is 65,000 tons more than the quantity fixed by the fishery convention for an off-year; and 25,000 tons more than the quantity agreed to for 1957, which was a big year.

"Newspapers of Japan assert there is no depletion of salmon resources because of the Japanese operations, but we cannot agree with this. Today's fishing techniques are capable of preventing a single fish from reaching a spawning stream. Salmon running back to their spawning systems are more and more curtailed in number because the Japanese have set long stretches of gear in the ocean in recent years.

"Unless the high seas operation be strictly limited, the damage to the salmon resources of the Far East caused by the Japanese can never be repaired, no matter how earnestly the Soviet Union restricts its river fishing."

● All of this has a strikingly familiar sound and theme.

It is evident that in the Soviet Union, as in North America, it is felt Japan evades its obligations under treaties whose prime objective is sustained yield conservation of the fishery resources.

From this rises the demand for cessation of fishing in critical areas of the high seas, of the Okhotsk as well as of the North Pacific in the area of intermingling east of 170° East Longitude, for the protection of vital spawning escapements to continental streams.

THE ATLANTIC GETS 48,000-LB. BONUS CATCH EACH HALIBUT SEASON AFTER REPOWERING WITH A CATERPILLAR D342 MARINE ENGINE

The *Atlantic's* owner-skipper John Gerde, operating out of Seattle, Washington, figures the extra speed of his new Caterpillar Marine Engine saves him about three days' running time per trip. This adds up to an extra trip each season. And the extra speed means a fresher catch which brings better prices, too. But let Captain Gerde tell it:

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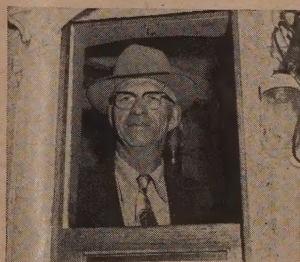
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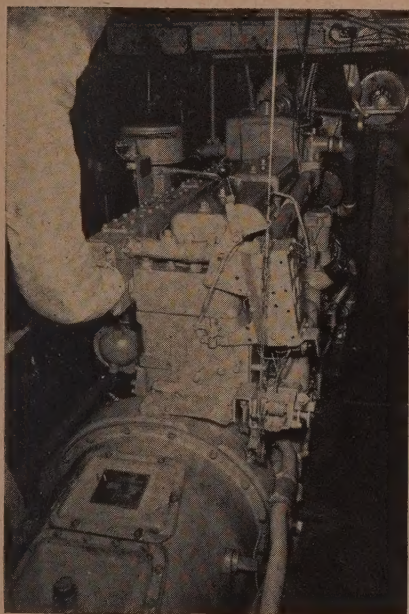
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Captain John Gerde has owned the *Atlantic* since 1922 and repowered with a Cat Marine Engine in 1956. He bought the Cat Engine because fishermen don't have trouble with these dependable power plants. He now finds lay-up time is free time — not tinker-time.



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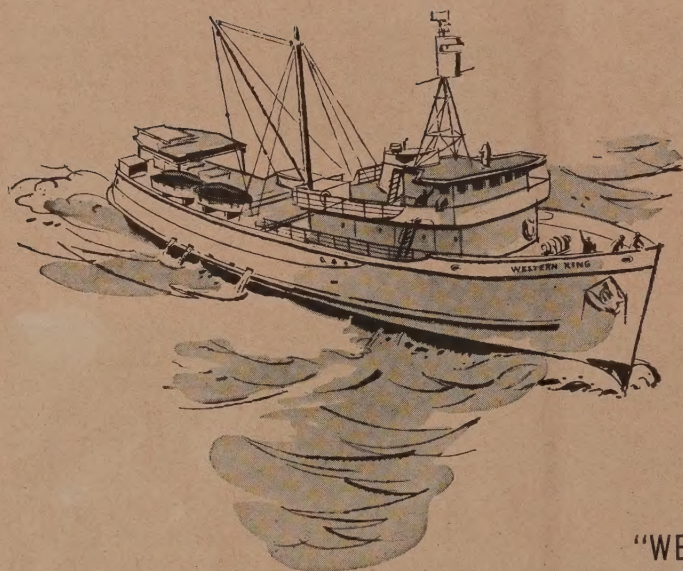
- ☐ I would like detailed information, as I may be in the market for a Cat Diesel Marine Engine. I understand that I am under no obligation.
- ☐ I am interested in learning more in general about these engines.

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GENEVA and WASHINGTON

Every Fisherman in the World Has a Stake

• Every fisherman in the world has a stake—whether he knows it or not—in a formal world conference to be held in Geneva, Switzerland, this spring.

Unless the meeting breaks up in a big disagreement, out of it will come a tissue of words and phrases, of principles and policies which will be in plain fact the International Law of Fisheries.

The green baize tables at Geneva may seem a long way from the baiting tables of the halibut fleet, but around them will be decided fundamentals which will affect fishing on every coast and every ocean.

The decisions will not involve specifics like seasons and gear, but they may be expected to provide effective answers to some such fundamental questions as these:

- *How far from its coastline may a nation claim sovereignty?*
- *Where established fisheries are fully exploited, studied scientifically and administered on a sustained yield basis, should other nations abstain from participating in them?*

• *Does a coastal nation have a special interest in and authority over the fisheries of the seas adjacent to its coast? Even if it is not currently exploiting them?*

• In the long-range view, the Geneva meeting may be the most important ever held from the standpoint of the world's fisheries.

But there are other meetings this spring which have more immediate impact, and thus command close attention.

There is the present Soviet-Japan meeting in Moscow, from which will come the catch quota and fishing areas which the Japanese will be permitted to fish in the North Pacific next season.

There is the current meeting in Washington initiating the four-nation treaty between the United States, Canada, Japan and the Soviet Union.

There is the United States Congress, which has before it measures designed alike to protect the American tuna industry from the pressure of foreign imports; and the salmon resource of North American origin from destructive fishing pressure on the high seas in contravention of the conservation principles of an international treaty.

Geneva —

Of Immense Importance

• The meeting at Geneva will consider the national responses to the International Law Commission proposals for the Law of the Sea. The United Nations Assembly may be expected to adopt the conference report, in effect making it international law.

Basic element in international Law of the Sea is the width for the territorial sea acceptable among nations. Some countries—the United States among them—support the doctrine of the narrow territorial sea, three miles or a bit more perhaps, beyond which are the high seas, open to all

men without interference.

Ideas as to the proper width for the territorial sea vary widely among nations, from the three-mile width espoused by largest maritime nations to the other extreme of the 200 miles and more claimed by some South American countries.

Canada recently injected a new complication with which Geneva must deal—a concept that a coastal nation could assert authority to 12 miles so far as fisheries are concerned, while retaining a territorial sea width of three miles where security is involved. That this Canadian concept has developed support elsewhere is acknowledged by some who disagree with it profoundly.

Finally, there are the exceptions, based on historic rights, accepted principles of conservation, and the rights of coastal populations. Under this heading falls the Principle of Abstention, developed by Japan, Canada and the United States as a means of practical conservation in the interest

of the world's food supply of fully exploited fisheries on a basis of history position, scientific study and administration designed to provide a permanent sustained yield.

Another reservation from the broad principles of sea law is concerned with special interests which a coastal state may have in the protection and exploitation of the fisheries of the seas adjacent to its coast, even though they may lie outside the specified zone of its territorial seas.

The United States' most important fisheries have been interested in the questions to be asked and answered at Geneva:

1. *Tuna*—in the right to fish migratory pelagic species with no known coastal relationship on the high seas under realistic definition.

2. *Shrimp*—in the right to exploit sedentary populations outside realistically defined territorial waters.

3. *Salmon*—in the Principle of Abstention, already established in international treaty as a means of applying scientific sustained yield conservation to fully exploited resources in the interest of protecting an important element in the world's food supply from destruction.

Washington —

Tuna and Salmon too

● Congress had before it in February clean-cut legislative measures designed to provide economic protection for the tuna industry and biological protection for the salmon resource.

California's industry at presstime was awaiting the report of the U. S. Tariff Commission on its tuna study, for that report would undoubtedly provide the cue for congressional action on the measures before it to put (1) an import quota on all tuna; (2) duties on frozen tuna imports, with a sliding scale based on quantity; (3) equal tariff rates on all canned tuna, whether packed in oil or in brine.

Once the Tariff Commission report is available and analyzed, strategy on the matter of legislation could be expected to take shape rapidly.

● Congress at presstime had before it measures which sought by different means that could be pursued simultaneously to provide emergency protection for salmon of North American origin from destructive exploitation on the high seas; now jeopardized because the Provisional Line established under the North Pacific treaty is now found to be too far east to accord the stocks of American origin the degree of protection contemplated by the treaty.

One course would call upon the Department of State to negotiate an arrangement with the Japanese government outside the North Pacific Fisheries Commission which would establish a Zone of Cessation of Fishing on stocks

of American origin until the commission could determine a permanent location for the line provided by the treaty.

The other would forbid importation into the United States of salmon produced under conditions or methods which would be unlawful if performed by citizens of the United States or the Pacific states — which would effectively close the United States market to Japanese salmon produced on the high seas by means of nets.

Passage of the first of these measures was virtually certain. If the Department of State failed to arrive at an effective understanding well in advance of the 1958 season, prospects for passage of the more drastic measure were believed favorable.

Moscow —

Might Yield the Answer

● From the U.S.S.R.-Japanese fisheries commission meeting being held in Moscow at presstime of this issue was expected eventually to emerge the pattern of the quota and fishing area program which the Japanese would be permitted off the coasts of Siberia.

It appears quite possible that the results of the discussions in Moscow may have distinct bearing upon the efforts of the Department of State to bring about an arrangement through the Japanese government by which 1958 fishing activities of its nationals would be suspended or largely limited in the sensitive area where scientific studies have shown salmon of North American origin to exist in significant numbers.

Qualified American opinion inclines to the belief that it is unlikely the Japanese will feel in position to indicate any modification of their position until their conversations with the Russians have been concluded.

At the same time it is known that conciliatory "feelers" have been pushed forward in the United States by Japanese interests of important but unofficial character.

Other Japanese in the United States have been carefully sounding public opinion and the reaction of the press to the protests against Japan's rejection of U. S. proposals for emergency measures to protect salmon of North American origin until relocation of the Provisional Line can be considered by the North Pacific Commission.

Results of such testing seems to be the feeling on the part of the Japanese that their National Section of the North Pacific Commission grossly underestimated the depth of American feeling on the point and the vigor of the reaction triggered by Japan's refusal to consider emergency cessation of fishing stocks composed in significant part of North American salmon.

Canada Gets Credit for Liberation of Fishermen

Canadian action before the International Red Cross Congress in Geneva Oct. 24, 1957, is being credited in Japan with powerful influence in restoring to probability release of the hundreds of Japanese fishermen who have been held prisoner in Korea since that country arrested them following declaration of the "Rhee Line" on the high seas off Korea.

The contention of the Canadian delegation in Geneva was so vigorous and effective that Dec. 31, 1957, saw the signature of a number of agreements between Japan and Korea, one of which called for return of the fishermen, 952 of whom are known to have been held in Korea. They were from 240 vessels seized, of which 102 have been returned to Japan.

As result of the Canadian plea and the subsequent release agreement, Canadian popularity in Japan was reported at a high peak as 1958 opened.

Scottish Scientist Joins Washington Fish Faculty

Dr. John Liston, a former fisheries technologist from the Torry Fisheries Research Institute, Aberdeen, Scotland, this winter joined the faculty of the College of Fisheries, University of Washington, as an assistant professor in fisheries technology.

He is a specialist in the bacteriological aspects of the field and is under a special grant in making a collection for the university of marine type bacterial cultures.

BBCF Regional Office In Arcade Bldg., Seattle

Samuel J. Hutchinson, regional director of the Bureau of Commercial Fisheries, opened the Bureau's new regional office at Seattle February 3 at 6116 Arcade Building, 1319 Second Avenue.

Mr. Hutchinson said the regional office will include the Bureau's Fisheries Loan Fund office, which will move from Pier 42 to the Arcade Building, and the Seattle administrative office of the Alaska Commercial Fisheries, which will move from the Post Office Building.

Pacific Salmon Investigations, the Technological Investigations, Exploratory Fishing and Gear Development, and Fishery Education and Marketing Development offices of the Bureau of Commercial Fisheries will remain at 2725 Montlake Boulevard in Seattle. The Market News office will remain at Pier 42 and the Pribilof Islands and Fur Seal Service will remain in the Federal Building.

Mr. Hutchinson said the Columbia River Anadromous Fisheries office will remain in the Interior Building in Portland, Ore. That office is in charge of the Columbia River Fishery Development program.

Donald R. Johnson Heads U.S. San Pedro Office

Donald R. Johnson, chief biologist of the Washington State Department of Fisheries, will be the U.S. Bureau of Commercial Fisheries "program director" in Southern California, it was announced at presstime of this issue. He will head-up the new "program office" at San Pedro, an agency of the Federal fishery service which will be responsible directly to Washington and will serve the tuna, sardine and other fisheries of California and distinct from the remainder of the B.C.F. Pacific Region.

Famous Food Technologist Returns to Private Work

Dr. Donald K. Tressler has resigned his position as Scientific Director of the Quartermaster Food and Container Institute for the Armed Forces, Chicago, Illinois. He is returning to his consulting practice as manager of Donald K. Tressler and Associates, with laboratories on North Compo Road, Westport, Conn. He will also be editor of the Avi Publishing Company, publishers of food technology books, also located in Westport.

Emergency Action Urged In Salmon Fishing Crisis

• Growing public awareness of the necessity for emergency action to save the North American salmon resource from depletion and destruction by fishing on the high seas was calling early in the year for action by the Department of State or Congress, or both; and before the 1958 fishing begins.

In January the Japanese were meeting with the Russians in Moscow; and in Washington the Canadians, Russians, Japanese and Americans were meeting in the first session under the new Fur Seal Treaty.

Fish and fishing were foremost subjects; and in Congress there was momentary expectation as this issue went to press that a bill would be introduced to close the United States market to salmon canned under conditions which would be illegal to American citizens—who are forbidden by state and federal laws to fish salmon on the high seas by means of nets.

• Congressional call upon the Department of State for immediate action to secure an understanding with the Japanese government for protection this year of Alaska-spawned salmon was asked in the House of Representatives in mid-January by Congressman Thor C. Tollefson of Washington.

His resolution, which does not require Senate concurrence, would ask the Department of State to proceed forthwith in negotiations designed to obtain "assurances that citizens of Japan will abstain from taking salmon spawned in Alaskan waters".

• At presstime there seemed some possibility that the Japanese might realize the seriousness of the situation and accept the American proposal for a Zone of Cessation west of the Provisional Line at 175° West Longitude.

Necessity for emergency action which would be effective in advance of the 1958 season is being urged by those devoting themselves to the prob-

lem. The North Pacific Treaty provides the machinery for shifting the Abstention Line to protect stocks of immature salmon of North American origin, but such action would require a year or more.

In urging the necessity for emergency action, George Johansen, secretary-treasurer of the Alaska Fishermen's Union and chairman of the Committee for the Protection of the North Pacific Fisheries, in January wrote the Department of State:

"To fail to reach an interim agreement to deal with the emergency at hand would intensify the struggle in the future and increase bitterness on the part of both the operators and the fishermen."

• Nor was the reaction restricted only to Americans. At a meeting in White Rock, B. C., Jan. 11, the conference attended by several hundred fishermen adopted a policy statement in this language:

"This conference of Canadian, U. S. and Alaska fishermen demands emergency action prior to the 1958 salmon fishing season to prevent the Japanese mothership fleet from continuing its exploitation of North American salmon in the North Pacific area. We call on the governments of Canada and the U. S. to obtain interim agreements with Japan prior to the 1958 salmon season.

"Evidence of research investigation by the U. S. section of the North Pacific Salmon Fisheries Commission shows there is substantial intermingling of Asian and North American salmon at least as far west as 170° East longitude. Therefore we propose the interim agreement must provide that the Japanese mothership fleet cease fishing east of 170° East longitude for the 1958 season; this interim agreement to be considered an emergency measure until such time as more adequate protection has been decided upon."

Southern California Receipts

	Albacore	Bluefin	Skipjack	Yellowfin	Bonito, etc.	Total
San Pedro	710		982	2,224		*3,916
San Diego			832	909		†1,741
Total 1958						
through Jan. 11 ...	710		1,814	3,133		5,657
Total 1957	55		3,182	2,873		6,190
Total 1956	331		2,146	4,608	2	7,087

*Includes 2,271 tons of imported frozen tuna, 708 tons Albacore, 351 tons Skipjack, 1,212 tons Yellowfin.

†Includes 1,637 tons of imported frozen tuna, 1,162 tons Skipjack, 475 tons Yellowfin.

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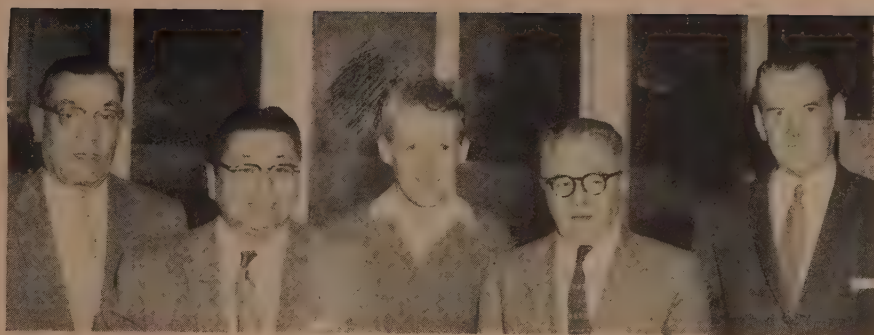
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They Sparked Monterey Meeting

Howard Miller, San Pedro, chairman of the meeting, is in the middle. Flanking him from left to right: J. J. Camillo, San Diego; Kay Nobusada, Monterey; Bart Ghio, Los Angeles; John Gilchrist, San Francisco.



Seafood Industry Marshals Forces For Twin Campaigns in California

• California's seafood industry took two great strides toward solving some of its problems at a Monterey meeting late in January.

Present at the meeting were industry members from Crescent City to San Diego, including representatives from the Northern California Seafood Institute, the Monterey Seafood Institute, the Southern California Fisheries Association, and San Pedro Fisheries Institute, as well as a number of fishing industry men with no affiliation.

It was decided to form a legislative council giving representation to all segments of the industry at the state legislature in Sacramento, and before its interim committees.

It was also decided by the group that the principles and idea of a marketing order for the seafood industry were acceptable, and that a five-man committee from northern and southern California would be appointed at a later date to meet Feb. 24 along with a general meeting of delegates from the various associations, to explore this matter more thoroughly. If the idea of a marketing order is acceptable to the industry it would follow the pattern of the Beef Advisory Board, which is similar to that of peach, lemon, and turkey growers. Funds raised by this advisory board would be used for the promotion and advertising of seafoods in the state.

• Howard Miller, San Pedro Fisheries Institute, was elected chairman of the Monterey meeting which was attended by about 40 members of the seafood industry. Assisting him were John Gilchrist, Northern California Seafood Institute; Kay Nobusada, Monterey Seafood Institute; and Bart

Ghio, Southern California Fisheries Association.

It was suggested that a statewide legislative council be set up to be called the California Fisheries Coordinating Council, and an organizational committee was set up headed by J. J. Camillo, J. J. Camillo Seafood Brokerage Co., San Diego, and the following committeemen: Nick Delaney, Delaney Bros., Newport Beach; Ron Dearden, Dearden Fish Co., Long Beach; Albert Castagnola, Castagnola Bros., Santa Barbara; Vince Vitalich, Catalina Fish Co., San Pedro; Lawrence Carver, Morro Bay Fisheries, Morro Bay; Neil Taylor, Norfish Sales Co., Oakland; Jack Williamson, Fortune Fisheries, San Francisco; Frank Tsuchiya, Pacific California Fish Co., Los Angeles; John Vitalich, Chesapeake Fish Co., San Diego; and Kay Nobusada, Consolidated Factors, Monterey.

This committee later brought in recommendations that such a legislative council be formed and left it up to the various areas to appoint a permanent committee to sit down and determine the policy and scope of such a group.

Herbert C. Davis, California Fish Canners Association, a guest of the San Pedro delegation, told of the legislative background of the seafood industry in the state.

Mr. Gilchrist stated that if the California seafood industry was to thrive it needed a legislative council for protection against special interests such as the recreational industry. He said that lack of a state program for the seafood industry has forced it into a defensive position although it is the sixth largest industry in the state.

Speaking on the subject of the proposed state-wide seafood legislative council, Mr. Gilchrist stressed the fact that it would not supersede already established local groups, but would provide representation at the state legislature, legislative interim committees, chambers of commerce, etc.

Eric Bulmer Heads N. W. Salmon Canners

Eric Bulmer, president of Ouzinkie Packing Co., late in January was elected president of the Northwest Salmon Canners Association, an element of the Association of Pacific Fisheries.

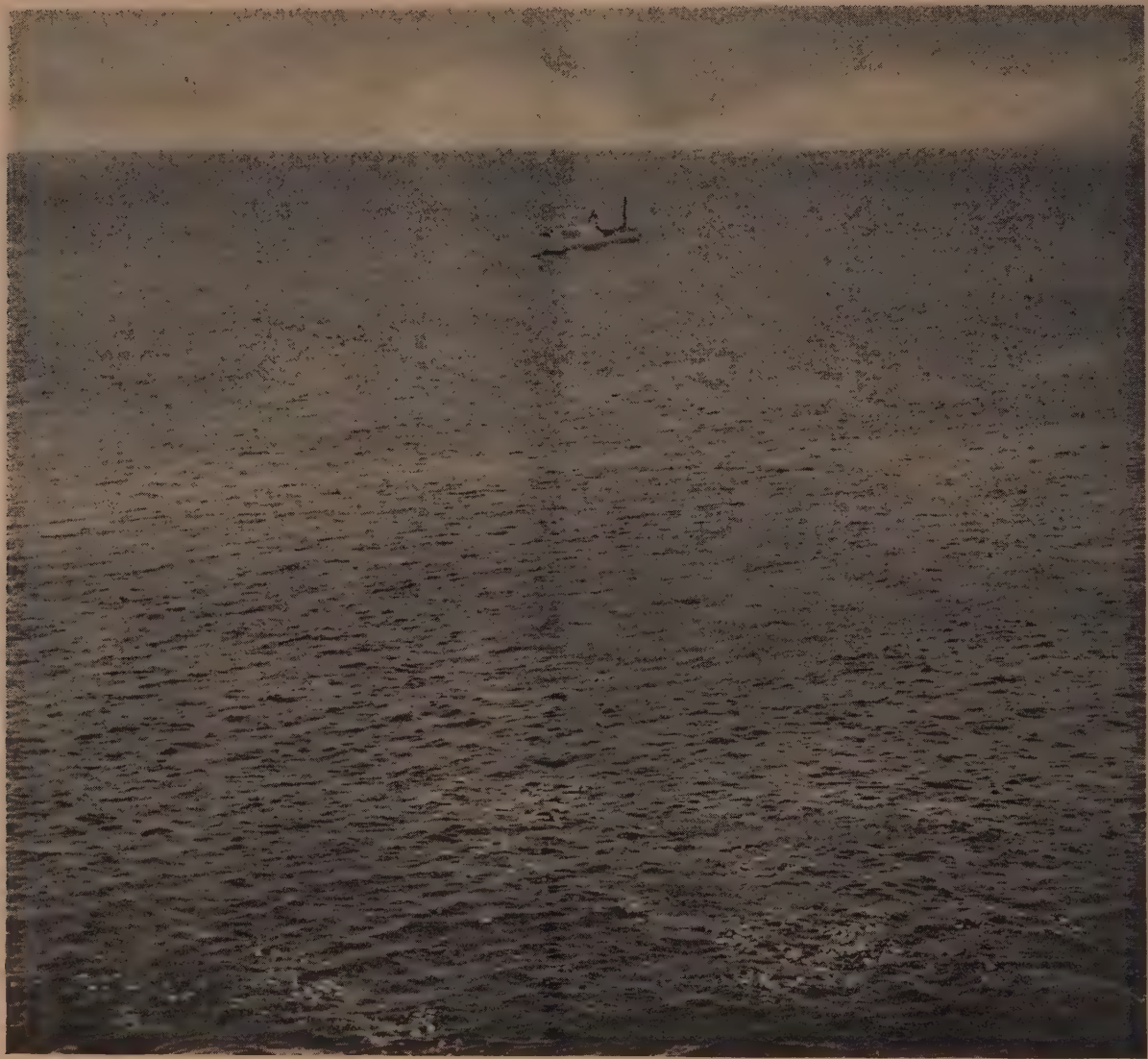
Vice president for 1958 is William Hingston of the Washington Fish & Oyster Co., while Robert F. Morgan of Parks Canneries is secretary.

Directors for 1958 are: Joseph Fri-brock, Snug Harbor Packing Co.; Jack Brennan, Haines Packing Co.; Henry J. Emard, Emard Packing Co.; Harold Heaton, Whitney & Co.; Clarence D. Payne, Ketchikan Packing Co.; Eldon Grimes, Klawock Oceanside Packing Co.; A. L. Rogers, Petersburg Processors, Inc.

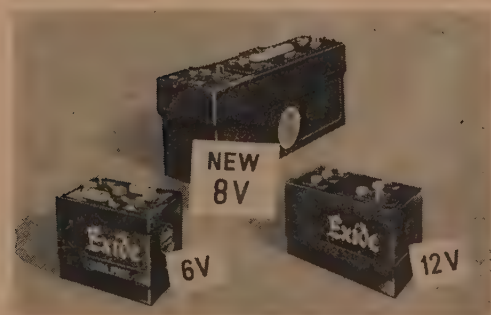
Lucido Shellfish Operations Center at Santa Rosa

Frank Lucido, for many years manager of Meredith Fisheries Co. plant at Bodega Bay, Calif., and lately operator of Bodega Bay Fisheries, now has the Lucido Shellfish Co., at the National Ice & Cold Storage Co. plant at Santa Rosa.

At this plant Mr. Lucido will vacuum pack California shrimp and crab meat in season. Sales will be handled by Fortune Fisheries, San Francisco.



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The Old and the New in Peruvian fish utilization: pelicans on the pier of a modern integrated Peruvian fishery plant—that of "Amial" at Samanco, where anchovies are used for canning as a fancy oil pack, as well as for the manufacture of fish meal. Although this use of anchovies for canning is a feature of the "Amial" operation, canned bonito is its principal product.

Birds vs. Fishermen

How can the Anchovy resource most fully and permanently serve the well-being of the people of Peru? When it is harvested by birds, or by human fishermen?

• Most prosperous element of the Peruvian industrial fisheries in 1958 is the reduction division, which manufactures superior fish meal and fish oil from anchovies and, to a minor degree, from the inedible portions of bonito. Machete, the Peruvian "herring", and scrap fish taken incidentally to fishing for these species are used to a limited extent.

Economically, the reduction business is prosperous, for its products are of high quality and enjoy a ready market.

Prospects for further growth are distinctly limited, however; and even the existing industry leads an uneasy existence, due to the sporadic sniping fire of politicians and professional sentimentalists.

As a result of this harassment, the Peruvian government has decreed a ceiling on expansion of the reduction business until such time as scientific research can devise means of measuring anchovy abundance, and of detecting fluctuations in it.

Thus, licenses for the operation of fish reduction plants were limited to permits applied for before Dec. 15, 1956, and were valid only if the plants licensed are in actual operation by Dec. 31, 1957.

In view of this ceiling on new plants, installation of those authorized progressed steadily through 1957, giving sharp stimulus to the economy. Character of the plants then installed is exceptionally high, some of them undoubtedly ranking with the finest in the world from the standpoint of equipment and quality of products.

The Guano Controversy

• Opposition to the rise of this most prosperous element in the Peruvian industrial fisheries is rooted in the national guano monopoly, the prime exception to Peru's national policy of government encouragement of private enterprise. Authority over the guano resource and the birds which create it resides in Compania Administradora

del Guano, created in 1909 as a national monopoly charged with the responsibility for rehabilitating the guano resource through limiting withdrawals to the annual increment, and by protecting the bird flocks and improving the islands' catchment areas.

The Guano Company, as it commonly is called, has succeeded admirably in this conservation enterprise. It has built up the annual crop, and the bird population, and at the same time has built up a tidy bureaucracy backed by professional advocates and apologists. Their emotional contentions provide prime material for a certain type of political orator. The result has been the ceiling clamped upon expansion of the most prosperous element of the Peruvian industrial fisheries, professedly until scientific research can develop means of determining the condition of the anchovy resource.

To this action of the government the Peruvian fishing industry takes no violent exception, and in fact agrees

A large, cylindrical fish can is shown in cross-section. Inside the can, there is a detailed illustration of two fishing boats on a choppy sea. The boats are multi-masted with complex rigging. Several seagulls are flying in the sky above the boats. The can's lid is at the top, and the bottom of the can is visible at the bottom of the illustration.

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earnestly that determination of the basic biology of the anchovy should precede any heavy increase in the demands made upon the population. One thoughtful Peruvian expresses it thus:

"It is felt that this course is a wise one to follow, since indiscriminate fishing of anchovy might disrupt the entire natural biological balance of the various economic species feeding on it." Such species of course include bonito and tuna as well as the guano birds, and mankind's herds and flocks which convert anchovy meal into butter and bacon, eggs and beef, and in doing so support Peru's growing animal husbandry and its foreign exchange balance.

Brought under intemperate attack as early as January, 1954, the Peruvian National Fisheries Society replied in a statement which said:

"This organization is fully as interested as the Guano Administration in seeing the fulfillment of appropriate investigations that will determine up to what point it is prudent to continue exploiting the anchoveta.

"At the present time the fish meal industry takes a total quantity equivalent to only 1% of the tonnage of anchovetas consumed by the guano birds; this figure can certainly be no cause for alarm.

"It is important to note that at the present time two different industries, of equal importance and respectability, are based upon the anchoveta: that for fish meal, which provides a highly nutritious foodstuff for both local consumption and export for agriculture and cattle raising; and the Guano of the Islands, which is an excellent fertilizer for agriculture."

This statement of position appears to conform rather closely with what one of its American advocates, Dr. Robert Cushman Murphy declares to be "exactly the philosophy of the Peruvian Guano Administration", which he phrases thus:

"The universal consensus regarding renewable natural resources is that they can be made to function permanently only when conducted in accordance with banking principles. This means that withdrawals must be continuously balanced by deposits, or else credit collapses."

With this thesis the thoughtful businessmen of the Peruvian fishing industry will agree precisely, and they will go on to point out that another principle of banking demands that withdrawals from capital not only be balanced with income, but that they be applied in the manner which will yield most in wages and profits and foreign exchange, most in social advance, in comfort, in higher living standards.



Anchovy fishermen mend their marlon net with its Spongex floats in preparation for another day, while their fellows discharge a deckload of the tiny fish at Callao.

Thus, they say, it is obvious that a ton of anchovies, reduced in one of Peru's modern factories, results in a product of greater economic value than does a ton of anchovies pressed through a flock of *guanays* and *piqueros* and deposited on one of their snow-white islands off the coast.

In the first place, the ton of fish reduced by modern machinery contributes directly to the economy of Peru when before it is sold in the earnings of the fishermen who catch it, and of the plant workers who process it. On the other hand, the fish which goes for guano benefits only the birds who eat it and the laborers who dig and sack the dried droppings for the Guano Administration. Moreover, the reduction plant has a secondary earning in marketable oil, an economic fact usually overlooked by the industry's detractors.

- It is readily demonstrated that the ratio of anchovy to finished fish meal averages 5:1 (disregarding the marketable oil); but the ratio of fish to *recovered* guano is a problem on which there appears no possibility of

agreement. The fishing industry usually quotes 25 tons of fish to 1 ton of recovered guano; while spokesmen for the birds offer figures as low as 6:1, although they are generally willing to settle for a claim of about 10:1. This figure is based on experimental evidence of captive birds fed known amount of fish, with their droppings dried and weighed. Such methods are too gross to be considered scientific, as they fail to take into account the unknown loss due to dropping at sea; the quantity of guano deposited in inaccessible areas from which it cannot be recovered; and the dried guano blown from the islands into the sea.

- There appears no disposition on the part of the industrial fisheries of Peru to deprecate the value of the guano resource and its importance to their country. They know that some of the natural conditions which create the guano resource also create the need for it, and theirs would be a poor patriotism which would not recognize the necessity for a broad policy of anchovy utilization which would intelligently apportion the anchovy population in such a way that, *after the demonstrated needs of adequate reproduction and of forage for bonito and tuna had been provided for*, the fish meal industry and the guano birds could yield the greatest economic recovery and standards-of-living benefits to the Peruvian nation.

The Peruvian Current which supports the incredibly vast anchovy population, and the fish and birds which live upon it, also makes a desert of coastal Peru, with agriculture possible only in the narrow valleys of mountain torrents pouring down from the Andean wall only a few miles from the coast.

Peru lives by agriculture, and it is an agriculture limited largely to these narrow, highly-exploited river valleys. Despite remarkable natural fertility, particularly in phosphates, there is a heavy demand for fertilizer to maintain productivity of the irrigated areas.

The lack of rainfall which creates the desert at the same time dries and preserves the bird-droppings on the islands and rocky capes along the coast. Original deposits of guano were enormous, and from 1848 to 1875 it is recorded that 20,000,000 tons of guano were harvested and sold.

In the process of "mining" the guano deposits the bird flocks suffered severely. Their nesting grounds were stripped of the guano accumulations which retained and protected the eggs. By 1909, the year in which the Guano Administration was given responsibility for the nationalized resource, the new guano crop amounted



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"In tuna seining, rapid handling means important savings," says Capt. Anton Misetich of San Pedro, well-known skipper of the tuna boat *Anthony M.* "Our 2,400-foot net of Du Pont nylon handles so efficiently that fewer sets are needed to fill the boat; more trips can be made to the fishing grounds. And judging by the net's excellent condition after 14 months' hard service, we're confident it will outlast any net we've had and prove far more economical in the long run."

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to 23,790 tons.

Under the intelligent and effective conservation program of the Guano Administration, the annual yield has increased consistently, until it now averages above 250,000 metric tons, with a 1954 yield of 294,000 metric tons.

Measures which contributed importantly to this achievement in applied conservation included:

1. Decreeing all bird islands as refuges and forbidding unauthorized entry or disturbance of the birds.

2. Regulated harvest at periods when the birds would be least interfered with or disturbed.

3. Construction of retaining walls to prevent loss of guano into the sea, and to extend productive nesting areas.

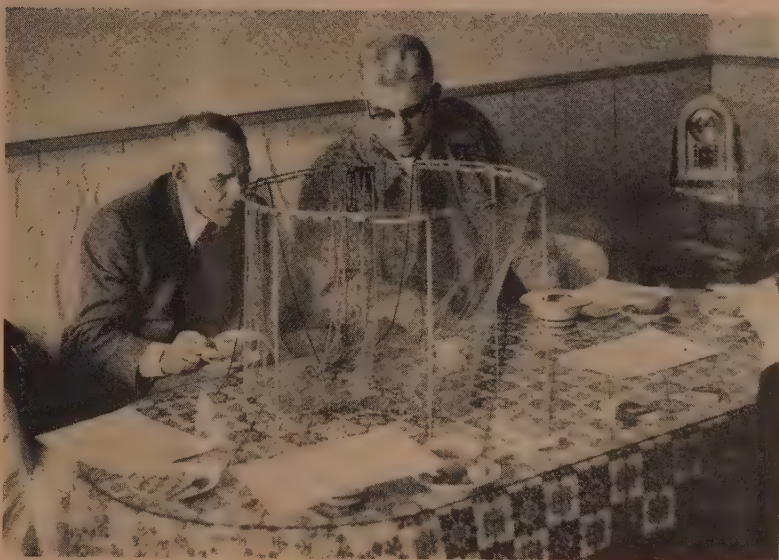
4. Development of mainland guano sites on promontories by excluding animal predators, principally little desert foxes, by the construction of barrier walls across the land side of narrow capes.

It is Peruvian government policy that domestic agriculture should be encouraged in the fullest beneficial use of the guano resource. Accordingly, the fertilizer is sold to Peruvian agriculture at a price well below what it would command on the world fertilizer market. This policy, then, acts as an indirect subsidy to Peruvian farming, and this creates a powerful force which the politician can marshal almost at will against the fish meal industry by declaring that the fishermen are "starving the birds" whenever an epidemic of infestation results in the appearance of numbers of dead birds along the coast.

Actually, the Peruvian cormorant or *guanay* and his hard-diving competitor the *piquero* are the finest fishermen in the world. Human purse seiners would starve for anchovies long before the birds would go hungry.

In spite of scant knowledge of the life history, the biology and the relation of the anchovy to his environment, the Peruvian fisherman, the biologist, the fishery operator all know that there are years when the flocks of the air and the schools of the sea suffer severely from abnormal conditions of current, temperature, wind and rain. This comes in a year of El Nino—and 1957 was such a year.

Presumably under the cumulative thrust of aberrant Equatorial winds, a relatively shallow transgression of warm water over-runs the colder waters of the Peruvian Current. Moving out of the northwest, this El Nino condition seems to render the surface waters of the sea unattractive or repellant to the anchovy schools, which either retreat southward or sound to depths where temperatures are more to their liking.



J. R. Townsend, San Francisco fishery consultant, left, and Harvey W. Smith, of J. Howard Smith Co., Atlantic and Gulf Coast menhaden operators, at the factory of Momoi Fishing Net Manufacturing Co., Ltd., Ako, Japan, examining a model of a menhaden purse seine. Messrs. Townsend and Smith flew to Japan together for a survey of the net manufacturing and fishing industry in Japan recently. They visited the Seattle Boat Show just before leaving, where Mr. Smith was particularly interested in the new Puretic power block and the hydraulic boom for handling it which Marine Construction & Design Co., Seattle, has developed for the menhaden fishery.

Under these conditions the birds go hungry and the seiners return with empty holds in place of deckloads.

This condition usually is not effective south of the vicinity of Callao, which the birds seem to know by instinct. Unable to reach the deeper-swimming anchovies of the north, the guanay and piquero migrate to the south in vast numbers, but not before disease and parasites have produced the shocking mortalities by which nature thins her flocks and weeds out the weak.

El Nino is blamed, but perhaps El Nino is part of a Plan.

What Research Seeks

- What does science need to know in order that biologists may assess the anchovy population, detect its trends and devise means by which man can correlate his draft with the abundance of the fishes, to the end that the yield may be sustained from year to year?

The biologists must learn the length of life of the anchovy; and how to determine the age of individuals.

They must know where, and when spawning takes place; and the fecundity of the female.

Science must know how to determine and measure the success of spawning; and how to observe the natural decline of abundance of the several year classes in the sea.

Researchers must scrutinize the effect of natural conditions on the life or loss of anchovy populations; must know how to assess damage done

by the occasional El Nino year.

Men must learn the impact of shifts in anchovy abundance upon dependent species, the bonito, the tuna, the guano birds—and even man himself.

Knowing this much, and using it, man can maintain this renewable resource of the constantly-flowing current, drawing from it food for himself and his flocks, and fertilizer for his fields and groves, to the perpetual benefit of the people of Peru.

In the year 1957, science grappled for the first time with this demanding problem under the direction of the Concejo de Estudios Hidrobiológicos, the Council for Hydro-Biological Studies, that there always may be fish enough for all.

E. G. Thorson Vice President Of Wilbur-Ellis Co.

Ernest G. Thorson, newly appointed Pacific Northwest manager of Wilbur-Ellis Co., San Francisco, who makes his headquarters in Seattle, has been elected a company vice-president.

Mr. Thorson joined Wilbur-Ellis Co. in 1945. After being sent to Buenos Aires to handle vitamin oil, he was transferred to the Seattle office in the vitamin oil department under Ray Mattson, where he remained until 1950. The following three years in the New York office as vitamin oil representative for the Seattle office. After another hitch in Seattle he went to Vancouver, B. C., as manager there until his transfer to Seattle this year.



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Tuna Auction Resumed At Minimum-Bid Price After Six Weeks Halt

● Following six weeks in which no tuna was sold at auction in San Diego under the arrangement initiated last summer by the American Tunaboat Association, cooperative organization of tuna vessel owners, selling was resumed January 20 with the auction of 1,702 tons of tuna aboard 12 of its member vessels.

The fish were bid-in by two companies. One purchased four fares, totaling 552 tons of Yellowfin at \$270 per ton and 100 tons of Skipjack at \$230—the cooperative's minimum prices for opening the auction.

The other buyer purchased the fares of eight vessels at a qualified bid \$5 under the minimum price, but with a provision for a bonus payment in this same amount for Yellowfin over 14 lbs. and Skipjack over 7½ lbs. The amount of fish involved in this transaction was 521 tons of Yellowfin and 529 tons of Skipjack.

Following this sale there were still 16 vessels in port with their fish unsold, but it was expected this would be bid-in at the next auction.

The last sale at auction previous to the January 20 transactions was December 9, with 873 tons purchased.



Mel T. Wick, president of the Off-Shore Fishing Vessel Owners Association, Astoria, composed primarily of trawlers. A. H. "Jess" Wright is managing secretary of the organization and Sverre Koppen is treasurer.

Cary Concludes Fishing Arrangement With Chile

Tuna operating arrangement with Chile, similar to those already in effect with Peru and Ecuador, emerged from the negotiations between Chilean governmental officials and Harold F. Cary, general manager of the American Tunaboat Association.

The negotiations resulted from the arrest of a number of American fishing vessels on charges of fishing in waters claimed by Chile, although they were well outside of any limit to territorial waters recognized by the United States.

Under the arrangement, American

vessels may secure permission to take bait fish and tuna in waters claimed by Chile, providing they pay \$100 for six months registration and \$12 per net registered ton of the vessel for a period of three months.

Columbia Fishermen Re-Elect Russ Bristow

Russell Bristow, Wauna, Ore., gill-netter, was re-elected president of the Columbia River Fishermen's Protective Union at its recent annual voting.

Helmer Lindstrom was elected vice president to succeed Robert Lindstrom. Treasurer is Albert Keranen; and William Westerholm of Brownsmead, Ore., is executive secretary.

Halibut Vessel Owners Re-elect Jacob Knutsen

Jacob Knutsen, president of the Fishing Vessel Owners Association, composed of the owners of the Seattle halibut fleet, was honored by re-election at the recent annual voting.

Chosen vice president was Einar Pedersen, while Arvid Svendsen was re-elected secretary.

Newly elected trustees are Agne Blendheim and Ole Satero, who join Berner Remmen, Sig Hegge and Ole Jostol, hold-overs from last year.

Harold E. Lokken, manager for more than 30 years, was re-appointed.

Jack Balbo is back on the job again at A. D'Acquisto & Sons fishermen's supply and equipment firm, Fishermen's Wharf, Monterey, after a major operation.

Monterey Seiners Work Morro Mackerel Schools

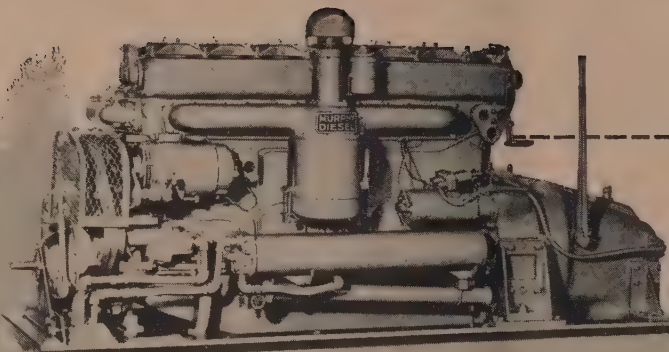
Toward the end of January jack mackerel began to appear off Morro Bay, and the Monterey purse seiners *Santa Rita*, Pete Guarassi, skipper; and *New Roma*, Nino Davi, hit fish, which were processed at Monterey.

Monterey boats have reported since last September of seeing huge schools of small sardines around the Santa Barbara islands, and also large mixed schools of small anchovies and sardines, mixed, have been seen from Monterey Bay to Avila. Monterey observers take this to be an excellent omen for the 1958 sardine season.

Fast Work Beats Fire

Fast work by the skipper and crew of the Monterey purse seiner *Lina V.* beat out fire at sea recently while they were fishing for mackerel off Pt. Sur.

Sparks from the galley stove set the net and turntable on fire, and considerable damage was done before the flames were brought under control.



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Calif. Salmon Fall-Off May Limit Sport Fishing

The poor take in 1957 by both commercial and sport fishermen of King salmon off the California coast may result in a curtailment of sport fishing during 1958, according to an announcement by the Department of Fish & Game.

In a report on the salmon situation it was stated that 1957 would be a second consecutive poor spawning year, and spawning stocks in 1957 could be the smallest on record.

Poor salmon fishing extended as far north as Alaska in 1957. Steps being considered for recommendation to the Fish & Game Commission are: shortening the sportfishing season or reducing the bag limit to two fish instead of three; assuring further spawning

survival by extension of spawning area closures; allowing more young salmon to grow to maturity by raising the minimum size limit of sport caught fish to 26"—the commercial minimum—from its present 22".

At the recent meeting of the Pacific Fisheries Commission it was recommended that all ocean sport fishing seasons in Oregon, Washington and California be shortened to coincide with the commercial seasons.

The report showed 1,500,000 salmon, an all-time high, were landed in 1956 by commercial and sports fishermen in California rivers and in the ocean. The 41 year average—1916-1956—is 800,000 fish annually. Lowest year was 1939 when only 300,000 fish were landed. The total for 1957 is expected to barely reach the 600,000 level.

Fish have been much harder to catch in 1957. Ocean commercial boats averaged only about 90 fish per month, compared to the 260 fish they averaged during the previous four years.

Party boat landings of ocean salmon through September were less than half of the average for the last four years—43,000 fish, compared to 103,500.

Commercial ocean landings were 519,700 fish—down 507,500 from last year's record high and down from the four year average by about 368,400.

Even though it was their last year on the Sacramento River, gillnetters found the fishing tough. They took only 16,000 king salmon in 1957, compared to 55,000 last year and the four year average of 65,000.

The report blamed the decline of the fishery in 1957 on more efficient commercial fishing gear, many more boats and increasing interest of the sportsmen in ocean fishing for salmon in the last 10 years. The report also blamed natural mortality and the immeasurable effects of pollution and other unseen and uncontrollable losses.

Vancouver Opens New Fish Haven

• Vancouver facilities for fishermen are at a new high as preparations move toward the 1958 season, the British Columbia metropolis having opened its new \$700,000 fishermen's wharves in False Creek at year end with some of British Columbia's biggest and smartest seiners sailing, with flags flying, to make use of the new facilities.

John Taylor, recently elected member of the House of Commons for Vancouver, formally dedicated the wharf while standing on the bridge of the seiner *Western Producer*, commanded by Captain C. H. Clark, of Nelson Bros. Fisheries and president of the Fishing Vessel Owners Association.

In addition to the *Western Producer*, vessels taking part in the ceremony were *Theresa I*, *Ocean Pride*, *Tatchu*, *Silver Viking*, *Miss Georgina* and *Renown*. The first vessel to make commercial use of the wharf was the hering seiner *Dollina No. 2*.

The wharf will be administered by the National Harbors Board as a federal utility.

U. S. Mild Cure Embargoed in Denmark

While the export business in mild cured salmon to Europe showed some pick-up in 1957, it continued to labor under one handicap for which there seemed little excuse. This is the embargo against mild cured salmon entering Denmark, a country which formerly was an active consumer; and which today ships substantial quantities of frozen trout to the American market along the Atlantic seaboard.

Norway has the same policy toward American mild cured salmon as Denmark, but Sweden permits limited imports. Germany is sparking the recent revival in this trade.

Actually a Danish house played an important part in leading the mild curing business to Alaska just before World War I when Vendsyssel Packing Co., the American subsidiary of an old Danish firm still active in salmon, established its operations in Southeast Alaska.

"Ozzy R." Towed In

The 48' troller *Ozzy R.*, owned by Parr Reese, Seattle, was towed into Humboldt Bay by a motor life boat from the Humboldt Bay Coast Guard Life Boat Station. *Ozzy R.*, skippered by Harry S. Larson, Seattle, and with one other man aboard, was on her way to Seattle when she developed engine trouble off Trinidad Head.



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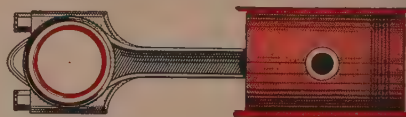


10 year old diesel has all original bearings

Skipper Albert Anderson of the M/V Midway says he's never had any trouble with his 165 h.p. Gray diesel in six years of using RPM DELO Oil and Standard's diesel fuel. The 10-year old engine still has all original bearings and, at time of last overhaul, Mr. Anderson reports rings were clear and free... "the engine was clean and in very good condition."

The Midway ranges out of Seattle as far south as Mexico (for tuna), and north to Alaska (after halibut). After six years of such runs on Standard's diesel fuel, Mr. Anderson says, "The diesel fuel always gives me full power and it's so clean I change strainers just three times a year."

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Seattle Fishermen's Co-op Cleared on Tuna Charge

Dismissal of any complaint against the Fishermen's Cooperative Association of Seattle in connection with tuna sales practices was recommended to the Federal Trade Commission in January by its examiner who studied the case.

Investigation resulted in this recommendation for dismissal "without prejudice," which means clear on all counts, that the FCA had engaged in a conspiracy to fix prices and prevent competition in the tuna fishing business. All officers and members of the association were cleared.

The FCA was named, along with other associations, firms, individuals and partnerships in a complaint filed in August, 1956. It demurred and denied complicity when a consent decree was entered against most of the defendants July 24, 1957.

Moss Landing Boats Have New Owners

Ray Stone of Lodi, Calif., purchased the 41' *Janie W.* from Bill Windbigler. The vessel was built in 1952 by Joe Perry at Fort Bragg and is equipped with a 3-cylinder Gray Marine diesel, 40-watt Fisher radio, receiver and direction finder, Wood Freeman automatic pilot, Galley Gal range and 6-spool Kolstrand gurdies. The *Janie W.* will be used for salmon fishing in the Fort Bragg-Eureka area.

Ralph Brazil of Seaside sold his Monterey type troller, *Tramp Troller*, to Roy Howland of Alameda.

The troller *Albacore II*, based at Moss Landing for eight years, has been taken to new fishing grounds on the Sacramento River. Ralph Fernandez purchased the boat from Cliff Dusek of Monterey recently. Built for John Williams of Newport, Oregon, the *Albacore II* was later bought by Lee and Thelma Bothwell. When they purchased the *Lanola* several years later the vessel was sold back to John. He fished the boat a couple of years and then sold it to Dusek.

The 24' *L'Arc*, named after Noah's masterpiece, was launched in Moss Landing recently by Tom Perry, builder of the neat looking craft. Twin Gray 109 horsepower engines installed by Phil Hover of Hover Equipment Co. power the craft which joins the growing winter moored fleet here.

Merritt Hamblin of the Moss Landing marine store and his wife Rose journeyed to Salem, Oregon for the holidays. Before returning to Moss Landing the Hamblins also looked over the fishing picture in Astoria,



Henriettea Paladini, famous 61' Paladini trawler out of San Francisco, and her new Murphy diesel which delivers 184 hp. at 1200 rpm., reduced to 400 rpm. at the wheel by a Snow-Nabstedt reduction gear. On the forward end of the engine is a Twin-Disc power take-off. Further auxiliary power is furnished by an American MARC 1.5-kw. diesel generator set. Installations were by Oswald Machine Works, San Francisco. Skipper of **Henriettea Paladini** is Sebastino Bussalachi.



Portland and Vancouver, Wash. Mr. and Mrs. Byron Allen and children of Imperial Beach spent the holidays with Pete Anderson of the *Venture II* and his wife, Elsie at Moss Landing. Pete and Audie Wilkes travelled to Tipton and Porterville for Christmas. Gus and Belle Johanssen of the *Belle J. II* stopped by on their way north from San Diego to wish Moss Landing happy holidays.

Fred Chaney has sold his troller *Wavekist* to Jim Head of Gilroy. Being temporarily without a boat Fred is working on the bottom fisher, *Sharon Denise*.

Jack Sullivan, buyer on the Regal dock at Moss Landing and his bride, the former Clara Guthrie of Watsonville, have returned to their home in Moss Landing, after a honeymoon trip to Wichita Falls, Texas. There the newlyweds visited with Jack's son Johnny serving in the Air Force. "First time in my life I've been more than 25 miles away from water," Jack said.

General Fish Corp., Monterey, is installing a four-ton flake ice machine and a new ice bin, according to Monk Loero, manager.

Paladini Re-powered

A. Paladini, Inc., San Francisco, one of the Pacific Coast's largest producers of fresh fish, is repowering its trawler *Henriettea Paladini* with a Model ABA 184, 184 hp Murphy diesel engine sold by and installed by Oswald Machine Works, Fishermen's Wharf, San Francisco.

The engine will be fitted with a Snow & Nabstedt 3-1 reverse and reduction gear. Also sold and installed by Oswald is an American Marc AC1 3-kw diesel generator set.

Humboldt Co-op. Seeks 10c For Its Crabs

A market order was presented last month to Eureka crab buyers by the Humboldt Bay Fishermen's Marketing Association, Eureka, asking a price of 10c-per lb. for crabs.

It was reported that fishermen in Oregon and the San Francisco Bay area are asking 9c per lb.

At the meeting the marketing association elected a new board of directors. They are Melvin Matson, Harvey Goodale, Walter Ghera, Tony Peters and James Blum.

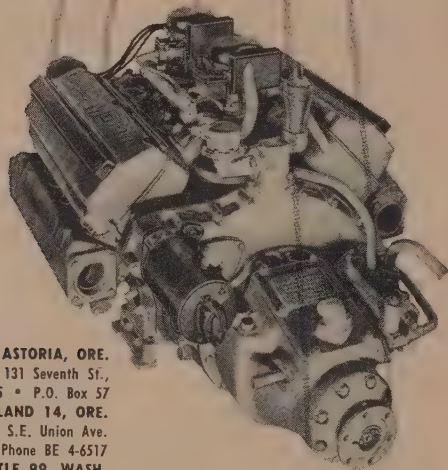


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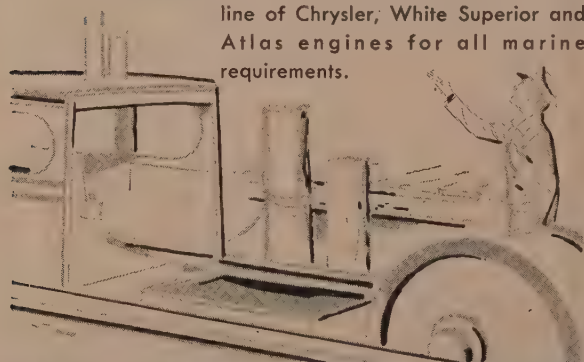
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SCOPE and SOUNDER

Monthly digest of present-day pioneering methods and equipment in world fisheries.

By PETRALE

"Cobb" to Tag True Cod, Leading Trawl Species

• The exploratory fishing vessel *John N. Cobb* will be used to assist the Washington Department of Fisheries in a program of true cod tagging during the latter part of February. The tagging experiment on true cod will further a program initiated during 1956 to learn more of the movements and life habits of the Pacific true cod. True cod have for the past several years led the state in poundage for a trawl-caught species. Two previous studies have been carried out by the Department, one in 1951 off Umatilla and one during 1957 off Quillayute, Wash. It is anticipated that most of the tagging during February of this year will be carried out in the Strait of Juan De Fuca in the area of Port Angeles. Spaghetti tags, which will be attached through the back under the dorsal fin, will be used.

• The complete ban on commercial salmon in Puget Sound, Willapa and Grays Harbor applied during the fall of 1957 to aid the escapement of declining fish runs proved quite effective. All Washington State rivers and the two harbor areas were and are closed to sport fishing for Chinook and Silver salmon. A five-day fall season was allowed in Puget Sound for the purpose of testing the Chum salmon runs, along with a restricted season in the harbor areas, to assure adequate escapement. The Department estimated that the emergency closure permitted an additional 7,800 Chinook, 80,000 Silvers and 190,000 Chum salmon to find their way to the spawning grounds. In a normal good year over 500,000 Chums and around 350,000 Silvers would have been taken in the commercial fishery during the closed period.

B. C. Herring Recruitment Favorable for Future

• For the past several years fishery workers in British Columbia have predicted the abundance of herring stocks in various B. C. waters through information derived from measures of year-class strength. On the basis of estimates made from surveys of the num-

ber of schools of juvenile herring during the past year was established by A. S. Hourston of the Fisheries Research Board that recruitment to the Vancouver Island lower east coast population should be better in 1958 than in 1957 and the middle east coast recruitment should be equal to that of 1957. The estimates of numbers of schools showed the largest comparative gain in the lower east coast and San Juan Island surveys. The increasing numbers of schools in these areas would seem to indicate a general increase in young fish entering the fishery.

Juvenile Crab Tagging Shows Hecate Recruitment

• Crab tagging experiments carried out in Canada during 1955 and 1956 by the Fisheries Research Board have shown a migration of young sub-legal size crabs from McIntyre Bay to Hecate Strait. Of 24 recoveries made from 95 releases in McIntyre Bay, 19 had moved around Rose Spit into Hecate Strait—a distance of about 19 miles. According to T. H. Butler, this suggests that Hecate Strait crab fishing may depend to some extent upon migration of sub-legal size crabs from McIntyre Bay. About half the recoveries made from sub-legal size crabs tagged in Hecate Strait showed movement of a random nature within the fishing areas. There was an indication of an offshore (east to west) movement related to seasons.

Struggle to Escape May Be Fatal to Salmon

• In recent years a number of biologists have been concerned with the effects of strenuous muscular activity on salmon. The answer to this question could help solve the problems concerning mortalities and the effects of salmon attempting to free themselves from hook and lines or struggling to free themselves from nets. A recent report by Edgar C. Black of the University of British Columbia in the *Journal of the Fisheries Research Board of Canada* indicates that mortality may occur from one to several hours after intense muscular activity. Mr. Black, using young Sockeye sal-

mon, agitated the young fish for a period of 15 minutes and then studied the effects of the blood lactic acid concentrations. Blood lactic acid build-up follows muscular activity. The experiment showed an increase of seven-fold in the blood lactic acid content in yearling salmon following the muscular activity. Two-year-old salmon showed the same build-up in blood lactic acid and five out of 19 died following the exercise.

Death could not be directly attributed to the lactic acid build-up following exercise, but as stated by the author: "Whatever the true cause of death, the implication of muscular activity to survival is important." In tagging, fish should be subject to the least possible exercise and handling. It is also pointed out that small fish caught by hand lines or trolling may die subsequent to their release as a result of the muscular exercise.

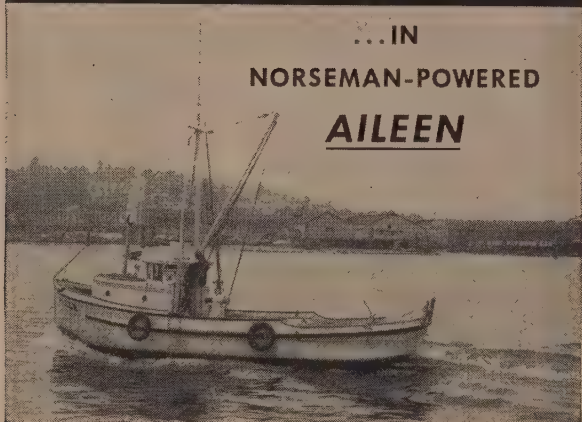
• During the summer of 1956 a mass fish mortality was noted in Alberni Harbor, British Columbia. Examination of the dead fish showed signs of irritation of the gills. Mucus and fine particles were noted around the gill filaments. To determine the factor or factors responsible for the kill, the Fisheries Research Board of Canada carried out two small oceanographic surveys within the area shortly following the report of the fish kill. Water temperatures were observed to be normal and dissolved oxygen showed normal concentration except in an area where a dredge was working.

The sudden nature of the kill and the condition of the dead fish were indications that the fish had died from some pollutant. As the dead fish were confined to the general area of the boat basin, it was felt the pollutant (in lethal quantities) was restricted to this area. Three potential sources of pollutants, pulp mill effluent, domestic sewage, and a capsized "blue-stone" tank were at first considered. After studying these possibilities it was considered doubtful that these sources were responsible.

As water samples taken in the area of the dredge showed oxygen depletion, further studies were made of the dredging operation. When the dredge was working the odor of hydrogen sulphide was evident. During the period of the fish kill, the dredge was removing cedar bark left in the area by a cedar mill. Cedar bark is a logical source of H₂S and may well have been the poison responsible for the kill. The November issue of the *Progress Reports of the Pacific Coast* stations stated the mass mortality of fish in the basin appears to have been caused by hydrogen sulphide from old deposits of cedar bark.

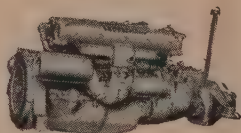
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Fishing Vessel Batteries—

How to Pick Them for Your Need;

How to Care for and Lay Them Up

● I'm a boat enthusiast, and also a battery man, and I know that in line with the trend of other marine aids, more and more marine batteries are being used for vital standby, emergency and starting power on all types of commercial fishing vessels.

I know that proper maintenance and selection of storage batteries can help to assure safe, uninterrupted marine operations. Yet, I have found but few people who know very much about this vital electrical device.

Recently, I heard some advice on preparing a boat for fall and winter lay-up from a man who was well informed on hulls and motors. No doubt, he was a good sailor, too. But, he didn't know batteries.

He suggested that batteries be

By
G. L. Nicholls

charged, emptied of acid, and sealed and stored during the lay-up period.

Apparently the man thought that this procedure would create charged and dry batteries such as are available at local service stations. It definitely would not!

Production of charged and dry batteries involves a special process in which the newly formed and charged plates are washed of acid and dried in an atmosphere devoid of oxygen to prevent oxidation. This is done

Mr. Nicholls is Seattle branch manager, Exide Industrial Division, The Electric Storage Battery Co.



Einar Pederson of Seattle, cleans the 32-volt Exide-Ironclad battery on his fishing boat Susan.

only in a battery manufacturing plant. Batteries assembled from such plates can be stored for long periods without appreciable deterioration as long as moisture-laden air is prevented from circulating through the battery elements.

Proper Procedure for Lay-ups

● Here is a simple procedure for preparing lead-acid batteries properly for lay-up periods. It should be helpful particularly to commercial fishermen who lay-up seasonally.

First, charge the battery at a low rate of charge, say at a current equal to 5 to 10% of its rated ampere-hour capacity. Or, use the charge rate given on the battery name plate. Continue charging until the specific gravity of the electrolyte, as shown by a hydrometer, shows a full charge. Be sure to determine from the name plate what is the full-charge specific gravity. It could be 1.220, 1.250 or 1.280.

The second step is to disconnect the battery and clean the cover with a mild solution of baking soda (one pound to a gallon of water). This helps prevent grounds and leakage of current. Be sure to keep the soda solution out of the battery cells.

Finally, every two months during the lay-up, use the procedure described in the first step to charge the battery at a low rate. Check the



Susan, Capt. Einar Pederson's successful, effective combination commercial fisherman, is cited by the author as an example of a boat with a sound program of battery care.



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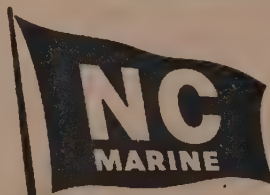
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electrolyte level and add water if necessary.

Follow these simple steps and your battery will be ready for use again in the spring.

During the operating season, be careful not to overcharge or undercharge the battery.

Fishing Vessel Practice

● Commercial fishermen usually follow sound battery maintenance procedures. For example, Einar Pederson of Seattle, owner of the fishing boat *Susan*, keeps a close check on his 32-volt Exide-Ironclad battery to make sure that he replaces the power which he draws from it. The simple hydrometer test keeps him informed. He cleans the top of his battery with baking soda solution to prevent grounds which might develop if dirt were allowed to accumulate.

The *Susan's* 16-cell battery not only is well maintained; it also has sufficient capacity to carry heavy electrical loads during certain phases of the operation. The battery must operate two sets of loran, radar, Fathometer, Fishscope, ship-to-shore radio-telephone, a flood-lighting system used during dragging operations and other small loads.

Thus, adequate battery and generator capacities are essential to the *Susan's* operations. The size of the battery required was determined by computing carefully the loads drawn by the electrical equipment during a 24-hour period.

I have found too many boats with inadequate batteries for the jobs ex-

pected of them in emergencies. Things go well until an emergency arises, causing a stop. Then, the entire electrical load is shifted from the generator to the battery. In such a case, a battery with insufficient capacity can leave a boat in distress.

When you purchase a battery, you might be told that you are getting a 280 ampere-hour battery. Find out the hour-rate of discharge on which this is based. It might be at the 72-hour rate. This could lead to serious trouble, because the battery might be too small for the job.

For example, a 280 ampere-hour battery (rated on the 72-hour basis) will deliver approximately four amperes for 72 hours. Now, if this same battery were rated on the basis of its 8-hour capacity, it would be only about a 188 ampere-hour battery. Similarly, at the half-hour discharge rate, the same battery would have only about 75 ampere-hour's capacity.

This emphasizes the importance of knowing the rate of discharge and the time of discharge when selecting a battery on the basis of ampere-hour capacity.

Don't buy a thin-plate automotive type battery if your boat has big electrical loads. You could end up with a boatload of trouble and, at best, a short-life battery for your money.

Remember, boats—like automobiles—are getting gadgety, and a battery which was adequate ten years ago no longer is suitable. So, before purchasing, seek the advice of qualified people to compute your load requirements.

Herring Prospects Dim as Union Rejects Offer

Prospects for early resumption of herring fishing in British Columbia waters were all but extinguished late in January when a new offer from the operators was turned down by the fishermen.

There has been no herring fishery during the winter because of disagreement over prices, except for a few boats catching for salteries.

The companies offered a 15-month contract and a basic price of \$1.30 a ton per man, using eight-man seiners without packers or tow-off boats. This was not acceptable to the 700 fishermen who have been on strike since October 15.

The United Fishermen and Allied Workers' Union told the operators that \$12.50 a ton was not a negotiating figure, and that unless the settlement could be reached fairly soon they would revert back to the sug-

gested \$13.25 per ton, the same rate that applied in 1956 and most of 1957.

Both sides appear to favor an agreement that would extend over 15 months in an effort to restore stability to the industry.

Walter Walling Retires

Walter Walling with Hover Equipment Co., Monterey, GM and Chrysler engine dealers, for many years and before that with its predecessor company, Boone Bros., has retired and is taking life easy.

Walt's place has been taken by Bob Wright, whose father is a commercial fisherman at Newport Beach, Calif.

Horace Lucido Dies

Horace Lucido, 45, skipper of the small Monterey purse seiner *Mary Ann* died on board his boat off Port Huene from a heart attack, recently. He leaves a wife and four children.



Instruments like this Edo Fishscope, upper, and the 250-fathom Fathometer are the successful commercial fisherman, and for their operation equipment such as this on *Susan* requires adequate batteries adequately maintained, charged and cared for.

Remember, too, that the battery is one of the most vital components of your vessel. Your life might depend upon it. Get a battery which is adequate for the job and maintain it properly.

Fishing Vessel Sinks With Load of Herring

Laden to capacity with bait herring and bound for Petersburg, the 5-ft. fishing vessel *Seanna* sank quickly in Wrangell Narrows in January after striking an unidentified obstruction.

Her crew of four, including Nels Otness, owner and master, escaped in safety. Others aboard were John and Pete Varness and Gainard Samuelson.

Colombia Tuna Cannery Is Looking For Fish

Harry Tchira of Barranquilla, Colombia, writes *Pacific Fisherman* that a cannery is now located at Tumac, Colombia, and that it is anxious to arrange with fishing vessels for a year-round supply of tuna. Fishing permits are said to be readily available and easily arranged. Cannery address is Indumar, Apartado 166, Tumaco.

Echoes from the Hamburg Gear Congress on —

ELECTRO-FISHING

● Adoption by fishermen of a variety of electronic aids for fishing since the end of World War II has ushered in a new era in harvesting the sea. Radar and radar reflectors, loran, navigators, direction finders, horizontal and vertical echo ranging equipment and other electronic instruments are all part of the paraphernalia of the modern fishing vessel. In no other field of fishing accessories has there been such concentrated and competitive development by manufacturers. Fishermen throughout the world are generally keen on electronic aids and have been quick to adopt fish finders, radar, etc., when the cost was within their reach. It would seem, however, that the electronic era which captured the imagination of fishermen is now looking beyond the field of aids in navigation and fishing and is considering its application to actual fishing techniques.

Electro Fishing

● Guiding fish with electric current is certainly not new and has been experimented with by scientists in many countries for some time. Electronic guiding of salmonoids in recent years has been given special study by the U. S. Fish and Wildlife Service in Seattle in connection of investigations related to guiding fish into protective passages and away from dams, intakes and other dangers. Comments on its use for capturing commercial fish, however, have been speculative, with only occasional reports of success with experiments carried out in West Germany.

Electro fishing is possible because of a "physiological must" reaction of fish to certain current patterns and strength. A fish subject to an electric field of direct current will align itself with its head toward the anode and swim towards this electrode. This characteristic reaction is called "electro taxis". If the fish continue to swim toward the anode and are subject to a very strong electric field, the fish will become narcotized or possible electrocuted. As a rule, the power required for "electro taxis" is less for larger fish than for smaller fish. This inverse relation by size in the differ-

By
DAYTON L. AVERSON

ence in power required to bring about "electro taxis" suggest possibilities of selective fishing by electro methods. Most workers feel that using either direct or alternating current for commercial operations is not feasible unless pulse current is used. The successful test of electro fishing at sea have used the direct current pulse method. Several interesting papers related to studies in the field were given at the International Fishing Gear Congress. In a discourse by Juergen Dethloff on "Electronic Fishing" the present status of electro fishing was outlined. According to Dethloff: "The main application at the present stage are (a) the gun pump method, (b) the electro trawl, (c) electro fences and (d) methods of improving purse seine fishing. The physiological laws and physical rules have been found. The engineering work has been done. The electric and electronic components are available in standard types. The reliability of the appliances has been shown. A certain number of electronic methods has been proved. The appliances are available for the fishery. In cooperation with the commercial fisheries, some of these and other new ones have to be combined with the conventional methods. But quite apart those combinations with the conventional procedures, new constructions will lead the way to the electro-fishing vessel. In pelagic fishing, electro catches will ultimately supply factory ships economically."

Dethloff certainly seems sold on the future of electro fishing.

● Procedures for electro fishing described by Dethloff as having been successful in field work are described below:

NOTE—Mr. Alverson is a biologist and fishing gear specialist on the scientific staff of the Washington Department of Fisheries. He attended the International Fishing Gear Congress in Hamburg in the fall of 1957 and is writing a series of articles for this journal on disclosures there. The accompanying article is second in the series. Next month he will discuss nets, net fibers, preservatives and net handling methods and equipment.

(1) *Electric tuna hooks*—As soon as a tuna takes the hook, the instrument stuns the fish, thus avoiding the loss by struggling and saving fishing time.

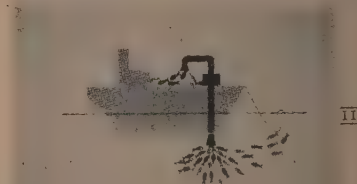
(2) *Lifting sunken fish in a seine coupled with pumping*—After pursing, the fish near the bottom of the net are brought to the area of the pump intake by means of an electrified suction hose head. The fish are attracted by "electro taxis" around the suction hose mouth. When using a power block, the net can be hauled throughout the picking-up operation as the fish are attracted from the bottom of the net. This method has been tried successfully with herring-like fishes. A modification of this method can be



ELECTRODE SHOOTING INTO SHOAL
SCHIESSEN DER ELEKTRODE IN DIE SCHULE



CONCENTRATION AROUND THE FLOATING ELECTRODE
KONZENTRIERUNG UM DIE SCHWIMMENDE ELEKTRODE



AFTER ELECTRIFYING OF SUCTION HOSE HEAD
NACH UMSCHALTEN AUF SAUGTRICHTER - PUMPEN
Sketch explanation of the gun-electrode-fish pump method of electro-fishing described in the accompanying article.

used to raise deep-schooled fish to the surface where they can subsequently be seined.

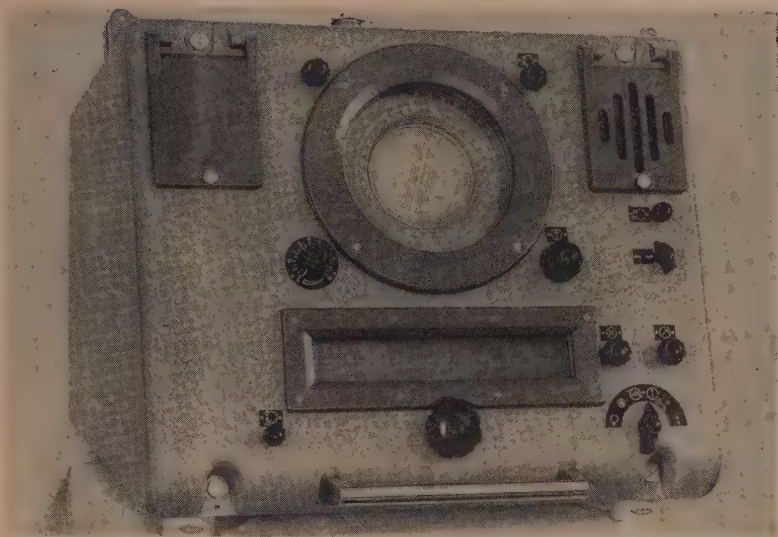
(3) *Gun pump method*—After locating a school of surface or near-surface fish an electrode missile is fired by an air blast gun into the center of the school. A floating electrode is connected by an insulated cable to the pulse generator on board and the current is started automatically when the electrode touches the water. The fish are said to concentrate around the electrode within one second and the boat moves up to the electrode. When it is approached closely the anode on the fish pump intake is energized and the fish are attracted away from the projectile anode. Schooled about the pump anode, they can be pumped aboard. This technique has been successfully tested using 80 kw, but the power requirements have now been considerably reduced. The gun pump method is applicable to pilchards, sardines and other herring-like fish. The author, Dethloff, feels it can be used in conjunction with a "stick-held dip net for bigger fish, e.g. bonitos, and tunas," which would be attracted to the gunned electrode and then brailed into the vessel.

(4) *Narcotizing of sardines* — In this operation, a hand electrode has been tested for stunning sardines. The small electrode is mounted on a small wooden stick. The sardines are stunned after pursing the net. Using this technique, the fish are landed without damage to their scales.

(5) *Electric fences* — The fences consist of cables arranged in a manner to lead or trap fish. A small installation of this type has been successfully tried in the tuna fisheries.

- Beyond these tested methods, other possible techniques were described. The electro trawl is considered a definite future development. Electro trawls have two advantages; the fish would be landed in better condition because of the elimination of struggle in the cod end and "electro taxis" would help attract fish to the net mouth.

Although considerable progress has been made in the field of electro fishing during the past 10 years, there are still difficulties to be worked out. The dangers of fishing with electricity were pointed out by A. Hosl of Munich, Germany. According to Hosl, accidents are always possible, because of the voltage and type of current used for fishing. This applies as well to direct current as well as impulse current. Because of these possibilities only skilled electro fishermen should be employed. The fishing activities should be directed by a "responsible expert" trained in this field. The author pointed



Direct-Reading D.F.—The Plath instrument which is widely used in European fishing. It requires no loop or tuning other than to the frequency of the station whose bearing is sought. This is indicated instantly on the cathode ray tube, giving immediate position.

out that only faultless equipment inspected before being operated could be used. The controls and leads to the electrodes would necessarily be carefully insulated.

Lights and Pumps

- An interesting presentation which was accompanied by movies was the development of an underwater light and pump fishery. After numerous attempts, Russian experimenters found that special underwater lights, attached to a pump hose intake and lowered to a depth just below the thermocline, the horizon where two water masses of differing temperature come into contact, produced excellent results when fishing for a species of anchovy, *krilka*. When in use, the lights are inverted so that they shine up towards the thermocline. The anchovies, attracted to the lights, are drawn into the pump intake, flushed onto a stainless steel conveyor and carried to a cleaning and packaging operation. This innovation in fishing without nets has been under study by Russian scientists for several years and the proof of success is a modern new fleet of 30 netless pump-light vessels operating in the Caspian Sea. Most of the data presented on the pump-light system was given in a paper by I. V. Nikonov of the Caspian Institute of Marine Fisheries and Oceanography (USSR).

Statistics given in his paper tended to point up the efficiency of the new netless fishery.

In 1951, some 170 vessels operating with lights and cone nets landed 17 million pounds. By 1956, 450 vessels landed 150 million pounds of

"krilka". Of this total, 10 million pounds were caught by 11 new pump-light vessels. Thus 2.5% of the fleet landed 6.6% of the catch.

- Experiments with underwater lights and a pump for catching herring-like fishes was tried aboard the Fish and Wildlife Service vessel *John N. Cobb* in 1952. Being aboard the *Cobb* during the preliminary experiments with this gear, I was struck with the similarity of the pump arrangements and the brackets for lights used by the *Cobb* and those aboard Russian vessels. According to Nikonov, their experiments with pumps started in 1954. Results of the *Cobb's* works were published by Joseph Ellson in the February issue of *Commercial Fisheries Review*. Drawing and photos are included in the article by Ellson. The chronological sequence of development of the Russian gear and similarity of handling the equipment is probably mere coincidence and certainly fish pumps are not new. Placing such experimental gear into commercial production, however, points to a close relationship between the Russian fish technologist and the fishing industry.

The Japanese also reported on experiments of leading fish with lights to set nets. Tadayoshi Sasoki reported that the method was successful in increasing the efficiency of the fishery. The system was applied successfully to the Himi fishing grounds of the Toyama prefecture and other areas; but Sasoki commented that if these scientific methods are to succeed the fishermen must have some knowledge of electricity and forsake their con-



Elected at the annual meeting of the Lower California Fisheries Association at San Diego were these officers: **Anthony S. Chiappe**, left, president; **John Zollezzi**, vice president; **Anthony Zollezzi, Jr.**, secretary-treasurer, who succeeded the late **P. E. McCaffrey**; **J. J. Camillo**, business manager, and board members, **Julius Zollezzi** and **Anthony Bregante**.

servative ways of thinking.

Navigational Fishing Aids

● The Decca Navigator System described at Hamburg is probably the most successful and accurate navigating technique developed for ship use in northwest Europe. It has also recently been established in Newfoundland and Nova Scotia. According to Decca personnel, 1700 United Kingdom fishing vessels are equipped with this equipment, which appears to be very similar to our Loran, using basically the same principle, with effective range from 10 to 250 miles. The Decca equipment has been especially popular with European trawlers; just as Loran has with our local vessels. The practice of trawling along certain position lines as we do micro-second readings has also developed. Although there are differences between the two types of gear, they have essentially the same purpose and advantages.

A device which I personally examined aboard the German research vessel *Gauss* and at the World Fishing Fair in Copenhagen was a Plath visual direction finder. This device seems to have definite possibilities for vessel operating in areas of poor Loran coverage. The visual direction finder automatically indicates a bearing in the form of a luminous trace (straight line or narrow ellipse) on the screen of a cathod ray tube. The only thing necessary for the operator to do is tune in a transmitting station. The trace then automatically appears on the screen. The visual direction finder eliminates a rotary loop and gives rapid and accurate bearings. These devices are now in use by many European fishing vessels.

● A number of fine papers relating the history, use, and development of various types of echo-sounding equipment were presented at the Hamburg conference. Echo devices are used for fish detection, quantitative measures of abundance of fish in schools, spawning surveys, studies of under-water topography, measuring the physical features of fishing gear while in operation, defining the depth of water, and for navigation. Its ability to give accurate recordings of depth and to locate sub-surface schools of fish are of paramount importance to fishermen. Because of importance of these factors, electronic manufacturers have and are continually attempting to develop equipment which is precise and easy to interpret. Fishermen are familiar with a number of these modifications such as expanded traces for a particular depth interval, which enable the operator better to understand and interpret the echo at a particular depth. Improving the detection of fish just above the bottom for trawlers and for mid-water studies seems to be the goal of a number of echo sounding manufacturers.

● The Japanese, using frequencies of 28 and 200 kc., studied traces of fish schools and of the Deep Scattering Layer (DSL), which is a concentration of animal plankton and fishes which generally descends into deep water during the day and rises to surface waters at night. The small creatures composing the DSL are considered a probable food supply for large fishes in oceanic waters. The Japanese found catches were closely related to successful interpretation of these records. Behavior of salmon were studied in the North Pacific net fishery areas

and it was found that salmon were concentrating in the DSL and would rise and fall with it. It was noted that part of the school would not descend to the deeper waters during the day, but remained at depths from 30 to 50 meters. The authors T. Haskimoto and Y. Manrivo suggested that these fish could be exploited during the daylight hours; thus extending the operation period on the mid-ocean stocks of salmon. The Japanese also concluded that 200 kc. echo sounders were more effective in recording bottom fish, surface fish, and mid-water fishes than 24 kc. echo sounders.

What will be next in the line of electronics for fishing is difficult to predict. Electro fishing has covered a lot of water during the past 10 years and may be on the verge of a breakthrough. With radar, Loran, Decca, visual direction finders, fish finders and two-way radio it would appear that the skipper is being pushed out of the wheel house, but if something worth trying is developed, the fishermen will find another niche to put it in. *Editor's Note*—Next month Mr. Alverson will discuss the Hamburg Fishing Gear Congress disclosures as to nets, net fibers, preservatives, and net handling methods and equipment.

Dragger "Saturnia" Sold

The old time San Francisco dragger *Saturnia*, owned and skippered for many years by Serafino "Johnson" Romani, has been sold through Dan Bohne & Son, San Francisco, ship brokers, to Peter and Dominic Busalacchi, San Francisco, brothers. Mr. Romani has retired from the fishing business. *Saturnia* is powered with an Atlas engine and is 45' long.

Leif Abrahamson Drowns

Leif E. Abrahamson, 39, a fisherman aboard the halibut vessel *Lindy*, was drowned in January while attempting to board the boat at night at its moorings in Seattle. His body was found entangled in the lines of another vessel.

"Sea Queen" to Mexico

Sea Queen, 80' Monterey purse seiner, owned by the Ferrante family, Joe Ferrante, managing partner, has been sold to Mexican interests through John Ghera, San Pedro ship broker.

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JERRY'S BOAT SALES: For any type or kind of boat or ship. World-wide contacts. Matt Batino-vich, owner and broker. New location: 310 West 7th, San Pedro, Calif. Terminal 3-4482.

COMMERCIAL FISHING BOATS for sale of all sizes, from Salmon Trollers, Combination Albacore Types, Monterey Purse Seiners to Druggers; Many Winter-moored at Moss Landing Harbor and Monterey; Prices from \$4,000.00 to \$85,000.00. **DON WOODWARD**, Licensed Broker, **MOSS LANDING**, California; Telephone **CASTROVILLE**, Newton 3-2620; Office at Marine Store, and Standard Oil Fuel Dock, Moss Landing Harbor, (Closed Sundays)

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This Fine Troller is a Real Bargain! Northern-type Troller, 58'x16'x7½', equipped for salmon and tuna. Has everything. Built 1954. Cash or half down, balance on time. Price about half replacement cost. Boat in first class condition and is one of top ten boats in tuna fleet. Picture and specifications furnished on request. Must sell to settle estate. Box 464, Pacific Fishermen's News, 71 Columbia St., Seattle 4, Wash.

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FOR SALE: Northern Dragger Winch price \$1,000. Holds 450 fath. ½ in. cable, each drum, 2 nigger heads. Perfect condition, stored and can be seen **Van Camp Sea Food Co.**, Terminal Island, Calif. ...See Charles Buchan.

FRANK SIMON ASSOCIATES are announcing the opening of their new offices at 105 W. "C" Street, in Wilmington, California and are offering for sale commercial boats of all types, including seiners, trollers, barges, tugs, etc. Will locate suitable boats for specific types of operation. Phone: TE 5-3101.

LOREN SPECIAL: New I D 6 B-A P N 4, 28 volt dynamotor, shock stands, fittings, indicator, receiver, \$85 F.O.B. Morro Bay, Calif. Cables to order, ready to install, \$125. Special price on 12-volt lorans. Advanced Loran Technical Manual, \$3.50. 32-volt 20-AMP 900 R.P.M. Delco Remy Flange mounted on G.M. diesel, or pulley driven, new \$55. 32-volt 10-amp 1150 R.P.M. Delco Remy, \$15; excellent for auxiliaries. Garwood Albacore hooks, round or Argo type, rust proof, \$20 per hundred. Joe Giannini, Box 143, Morro Bay, Calif. Phone Spruce 2-2861, Morro Bay after 7 p.m.

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"Marie Louise" Converts To All-Cat Power

The 75' San Diego tuna clipper *Marie Louise*, owned by Steve Zolezzi and associates, has been repowered at the Harbor Boat & Yacht Co.'s yard in this southern city. The new power plant is a D-375, 8-cyl. V-8 Caterpillar diesel with 3:1 reduction gear and develops 300-hp. Shepherd Marine, Caterpillar distributors, supplied the engine.

The clipper *Marie Louise* is now entirely powered by Caterpillar diesels, with two 65-hp. auxiliary plants, direct-connected to 34-kw and 40-kw generators. The *Marie Louise* was built in San Diego in 1937.

'Copter Saves Fisherman

Andrew Cordellos, Sausalito, skipper of the salmon and Albacore boat *Wayfarer*, had a narrow brush with death last month when his ship burned and sank off Pt. Dumes. Andy was plucked from the sea by a helicopter.

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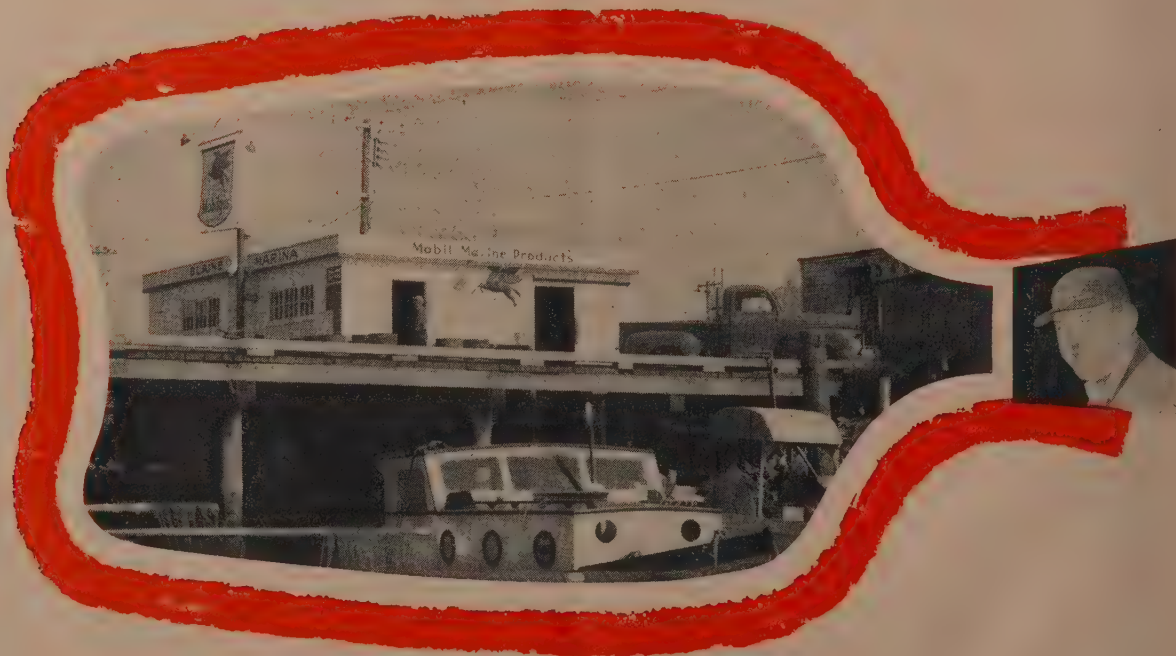
Walt Larson, the Mobil Marine operator in Blaine, Washington, is a good example of a successful business man who made it the hard way. Born near the rugged coast of Alaska, Walt came south to the Northwest after over 20 years of experience on board fishing for both salmon and halibut and operating a marine station in Elfin Cove.

Since coming to Blaine, three years ago, Larson's list of

regular customers has grown to over 350 of the almost 500 boats which are operating out of the Blaine Marina.

Experienced Mobil Marine operators such as Walt Larson are serving skippers of all types of craft every day of the week. From Alaska to Mexico the dock bearing the familiar sign of the Flying Red Horse means the best in service and petroleum products. Stop in the next time you're in port!

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U. of W. Elevates Fish School to College Rank

College of Fisheries is once more the official rank and style of the University of Washington division devoted to the training of fisheries biologists and technologists. It was advanced from the status of School of Fisheries by the university regents in January, and Dr. Richard Van Cleave, a 1927 University fisheries graduate and director of the school since 1948, was appointed acting dean of the new college.

In receiving separate status, the College of Fisheries is being reinstated to the administrative position it occupied in 1919, when the College of Fisheries was first established on the campus; and until 1930, when it became a department of the Biological Division of the College of Science. In 1935, it was designated as the School of Fisheries within the College of Arts and Sciences.

At the same time, the regents approved the integration of the Fisheries Research Institute into the College of Fisheries. The Institute will serve as a research arm of the college, instead of operating under the Graduate School. Dr. W. F. Thompson has been director of the Institute since it was established in 1947, and prior to that time was director of the school.

The Fisheries Research Institute was set up when the Alaska Salmon Industries, Inc., turned to the University to develop a long-term industry-supported study of Alaska salmon resources. Industry support since the beginning of the program has totaled approximately \$1,850,000. Various government agencies also have contributed to the program.

In recommending the changes, President Henry Schmitz said:

"It seems altogether proper to me that the School of Fisheries, which is one of the few such schools in the world, should be given academic status similar to that recently acquired by Architecture and long enjoyed by Forestry and Engineering. It seems equally appropriate to bring the Fisheries Research Institute into the College so that it can be given additional support and direction.

"This also gives recognition to the importance of the fishing industry to this area and will make possible a unified program in Fisheries at the University which will permit us to meet more effectively our responsibilities to the students, the industry and the state."

The University is the only institution in the Western Hemisphere that provides training for both biologists and technologists in fisheries. Ideally situated in proximity to fresh and salt water, it is able to offer instruction in marine and fresh water fisheries management and technology.

The College of Fisheries has an international reputation for fisheries research and training, and its graduates hold important fisheries positions in many parts of the world. Included in its enrollment are students from many foreign countries. Courses are offered leading to degrees of bachelor of science in fisheries, bachelor of science, master of science and doctor of philosophy.

Canada's Fish Minister Opposes Fraser Blocks

● Canada's new Fisheries Minister, J. Angus MacLean recently came out in favor of protecting the Fraser River salmon from interference by builders of power dams, as did his predecessor James Sinclair.

Speaking in the House of Commons, Mr. MacLean declared there is "little likelihood" of large-scale power development on the Fraser in the near future.

Mr. MacLean was replying to criticism that had been leveled in the House against Major-General A. G. L. McNaughton, chairman of the Canadian section, International Joint Commission, who has been advocating diversion of a part of the Columbia's waters into the Fraser to increase power potential for a series of proposed dams.

The former minister of fisheries, Mr. Sinclair, declared that General McNaughton was "remarkably blind" to scientific studies concerning the problem of getting salmon over or under power dams, and was evidently obsessed with the need for more hydro-electric power in British Columbia.

Mr. Sinclair said he was in favor of both fish and power on the Fraser, but that no successful means of combining them had so far been developed.

The new minister, Mr. MacLean, said it is his intention to safeguard in every way the interests of the Fraser River fishing industry. He said he realized the importance of the salmon fishery's Management as a long-range program.



Mel Halgren, vice president of Whitney & Co. in charge of its Puget Sound operations, recently was elected president of Puget Sound Salmon Cannery, Inc., for 1958.

Rubinstein Interests Merged Into Whitney & Co.

Sam Rubinstein, president of Whitney & Co., Seattle, announced in mid-January that Farwest Fishermen, Inc., Farwest Wrangell Company, Inc., and Seldovia Bay Packing Co. have been merged with Whitney & Co.

Farwest Fishermen, Inc., operates a salmon cannery at Anacortes, Wash., which burned recently. Farwest-Wrangell operates a salmon cannery and cold storage plant at Wrangell, Alaska; while Seldovia Bay Packing Co. has a salmon cannery and cold storage at that point.

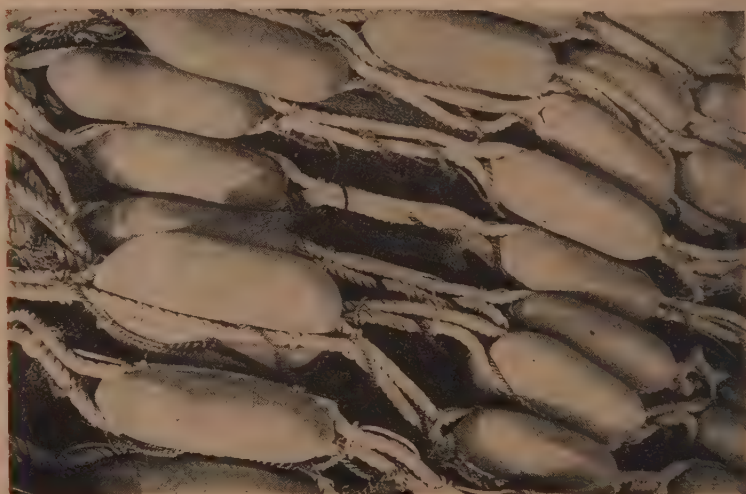
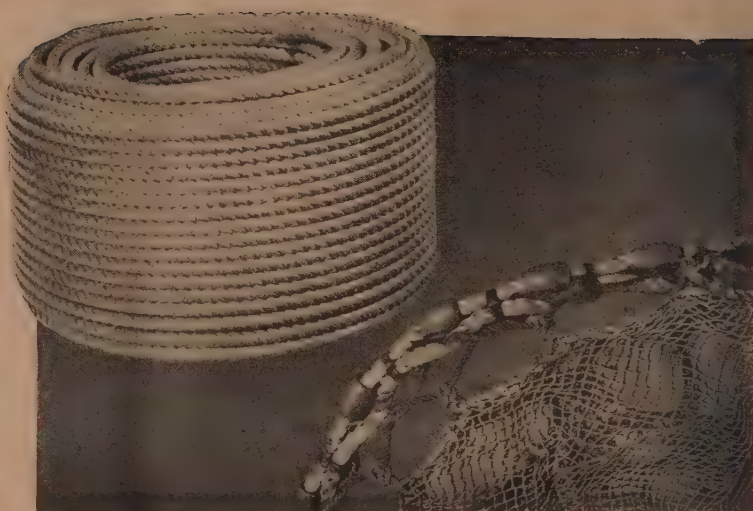
Officers of Whitney & Co. following the merger were announced as: president, Sam Rubinstein; vice presidents, Mel Halgren and H. G. Heaton; secretary-treasurer, Gladys Rubinstein; assistant secretary, J. R. Gardiner.

Eight operating divisions have been created, Mr. Rubenstein said. They are the Seldovia-cannery and cold-storage divisions, Reefer King division, Solo-crab division, Anacortes-cannery division, Wrangell-cannery and cold-storage divisions and the Seattle-operation division. They represent type and geographical divisions of Whitney & Co.

Prior to the merger and reorganization, Mr. Rubenstein said, Whitney & Co. operated the Reefer King division and conducted miscellaneous operations in fresh and canned fish in the Seattle area. It also acted as the selling organization for production of the Alaska and Anacortes companies involved in the merger.

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Rich Atlantic Tuna Area May be Small in Size

The remarkably productive tuna fishing area which the Japanese long-liners have discovered in the Atlantic (*Pacific Fisherman*, Dec., 1957, Page 32) may prove to be quite limited in extent, according to Capt. Koichi Wakao, master of the "guidance ship" *Sagami Maru* of the Kanagawa Prefectural Fisheries Experimental Station Misaki, Japan.

This he made plain in a report there upon the recent return of his vessel from a globe-girdling exploratory voyage occupying 16 months.

He was amazed at the comparatively low temperature of the Atlantic water in Equatorial latitudes, and at the dominant effect of the cold currents on tuna fishing. He felt that what appeared to be an extensive fishing ground might prove to be only a relatively narrow belt of water in the vicinity of the Equator, and confined largely to mid-ocean, without reaching close to the land mass of either the African or South American continents.

No tuna whatever was found in the great areas where oceanic conditions are influenced by the flow of the Amazon.

In view of the heavy concentration of Japanese fishing vessels along the narrow belt of high productivity, Capt. Wakao frankly expressed his concern over depletion of the resource, although recognizing that research vessels still have an enormous area in the Equatorial Atlantic for examination, evaluation and testing.

Marathon Executives Enter New Duties With Canco

John Stevens, president and chairman of the board of Marathon Corporation until its recent merger with American Can Company, has been elected a vice president of Canco, it was announced by William C. Stolk, can company president. Mr. Stevens will assume executive duties with the parent company.

At the same time, Mr. Stolk announced the appointment of Roy J. Sund, formerly executive vice president of Marathon, as vice president and general manager of Canco's newly formed Marathon division. Mr. Stevens and Mr. Sund, both of whom are directors of American Can, will continue to make their headquarters in Menasha.

Appointed a vice president of the new division, Leo E. Croy will continue to aid in organization development and will concentrate on increasing the scope of Marathon's diverse packaging lines.

Sportsmen's Drive to Close Columbia in February Fails

• Sportsmen's drive to close the February Steelhead commercial fishing season on the Columbia River failed late in January when Milo Moore, Washington fisheries director, joined the Oregon Fish Commission in rejecting the proposal.

The game departments of the two states put up a fight in support of the sportsmen's drive, which was regarded as an opening wedge in an ultimate attempt to close the Columbia to all commercial fishing.

Greatest weight in favor of continued fishing was the testimony of Jurgen Westrheim, Oregon biologist, who said the February Steelhead run actually is underfished with both commercial and sports gear working, and that 75% of the run now goes to escapement.

President Tom Jorgenson and William Puustinen of the Columbia River

Fishermen's Protective Union presented strong arguments for continuation of the commercial season.

Columbia River open seasons in the area below a line five miles downstream from Bonneville Dam this year will be:

January 29-March 1;

April 30-May 27;

June 16-July 15;

July 29-August 25;

Sept. 15-Oct. 16;

Oct. 27-Nov. 27.

All openings and closings are at noon on the days indicated.

Weekly closures from May 1 to August 1 will be from Saturday noon to Sunday 6 p.m.; from Aug. 2 to 25, Friday 6 p.m. to Sunday 6 p.m.; Sept. 15 to Nov. 27, Thursday 6 p.m. to Monday 6 p.m.

Maximum gillnet gear length is 250 fathoms.

Guy V. Graham, Retired, Active on Civic Project

Guy V. Graham, who retired last fall as vice president of Libby, McNeill & Libby in charge of salmon operations, after 41 years with that Libby division, is keeping himself active in Seattle civic work. He is devoting himself to the cause of a "metropolitan" project which would bring all communities of the Seattle area into a legal district for concerted development.

Mr. Graham has his personal office in the Colman Building, Seattle, where he shares space with A. W. Wittig and C. F. Johnson, two other retired salmon packers.

Succeeding Mr. Graham in the management of Libby's salmon canning operations is K. C. Hardwicke, who joined the company 30 years ago upon his graduation from Stanford University. He came to Seattle early in 1957 and spent a number of months familiarizing himself with his new duties before assuming them fully in the fall.

Mr. Graham has been a mainstay of the American salmon industry for many years, having held every office of trust, responsibility and dignity in that segment of the American fisheries.

Also retiring in November was Ben Keeler, who joined Libby in 1914. For many years he has been manager of the traffic and purchasing departments of the division. John G. Korzan succeeds him as purchasing manager.

Klamath Sportsmen Rally To Rebuild Salmon Runs

Following announcement of the California Fish and Game Commission that it found the condition of California salmon runs in such serious condition that restriction of sportsmen's activities would be necessary, sportsmen of the Klamath River area formed the Klamath River Conservation Club, Inc., and entered upon an active campaign to rebuild the salmon runs.

The club, headed by Roy Rook, believes that logging practices in northern California are largely responsible for the weakened condition of the salmon resource. It declares that bad logging practices have already destroyed 900 miles of salmon spawning gravels in northern California streams.

Troller Is Rescued From Raft Far at Sea

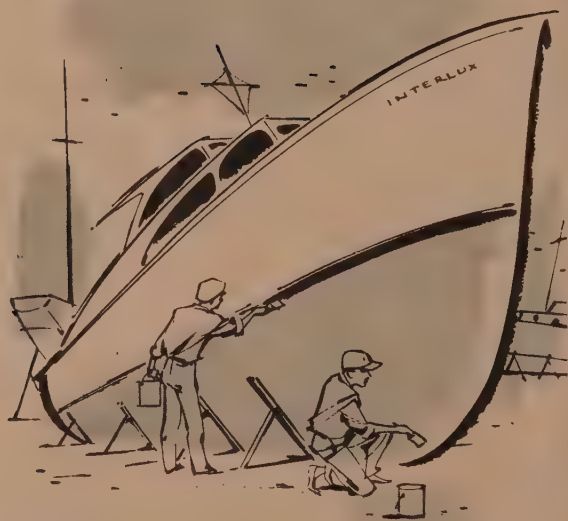
A Concord, Calif., fisherman, skipper of the troller *Sea Hag*, converted from a landing craft, was rescued recently 90 miles at sea midway between San Luis Obispo and Monterey Bay.

The rescue was made by the crew of the troller *Malihini* which heard the SOS flashed by Herbert Beem, skipper of *Sea Hag*. Mr. Beem took to a raft, when *Sea Hag* began to sink, fashioned from two red fuel drums lashed together.



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Every ride is a luxury cruise when your craft is equipped with a dependable "Capitol" Gear. You'll discover new ease of handling, greater maneuverability and smoother performance right from the start . . . plus the quality craftsmanship that has made "Capitol" a famous name in marine equipment the world over. Start soon to enjoy a thrilling new adventure in seafaring with a "Capitol" Gear.

EF REVERSE AND REDUCTION GEAR
Features full 100% reverse. The EF Reverse Gear is made for a lifetime of use. Easy to install, the EF may be used on the Caterpillar D-311, Cadillac 210 h.p., Oldsmobile 88 and 98, Buick V-8, Chev V-8, Pontiac V-8, Ford and Mercury (85 h.p. and up) engines.

HYCD-200 HYDRAULIC REVERSE GEAR
Complete maneuverability for pleasure craft, fishing boats, harbor craft or work boats with engines up to 300 h.p. at 2,000 RPM. Also available with reduction gear 1½:1; 3:1; 3½:1; 4:1; 4½:1; 5:1; 5½:1; 6:1.

2 HE REVERSE AND REDUCTION GEAR
Here is the newest in hydraulically controlled marine gears. World famous for smooth, dependable control, instant response and longer service life. A compact unit, the 2HE features finger-touch control with full forward and full reverse. Can be used on gas engines to 250 h.p. at 4000 RPM and diesel engines 150 h.p. at 3000 RPM. Also available with reduction gear 1½:1; 2:1; 2½:1; 3:1; 4:1.

AC REVERSE GEAR
Direct drive reverse gear. Capacity 280 h.p. at 1000 RPM. Also available with reduction ratios of 2:1 and 3:1.

FG REVERSE AND REDUCTION GEAR
Capacity 500 h.p. at 1000 RPM. Reduction ratios of 2:1; 2½:1; 3:1; 3.75:1.

Write for Complete Details:

CAPITOL GEARS

AUTO ENGINE WORKS, Inc.
325 No. Hamline Ave., St. Paul 4, Minn.

**Designers and Builders
of Dependable Gears
... For Over Fifty Years.**

Report of USSR Fish Deal Excites Japan

Possibility that the Soviet Union may permit two or three Japanese motherships served by gillnetters to operate within territorial waters from 3 to 12 miles off the coast of Kamchatka was announced in Japan early in the year by Genzo Takano, president of Hokkaido Gyogyo Kosha, a salmon mothership operating company financed in large degree by Hokkaido fisheries cooperative associations.

His declaration was received in the Japanese industry generally with some incredulity, and the frank doubt that it could be effective in 1958. At the same time the report created intense interest in Japan.

Mr. Takano said he had been approached by the Soviet authorities with respect to an arrangement which would permit two motherships to work off the west coast and one off the east coast of Kamchatka, working in the band from three to 12 miles offshore. (The company's motherships are: *Eto-rofu Maru*, 6,714 gross tons; *Terutama Maru*, 5,643 tons; *Ginyo Maru*, 3,700 tons.)

For permission to enter U.S.S.R. territorial waters, the vessels would pay a license fee to the Soviet.

Mr. Takano said that he had twice this year been invited to come to Moscow to conclude the arrangements, and that he expected to do so about the end of February, or after the Soviet-Japan discussions of 1958 salmon operations have been concluded by the international commission controlling these activities.

Stan Gillis in Japan Inspecting Seed Oysters

Stanley C. Gillis of South Bend, Wash., chairman of the Seed Committee of the Pacific Coast Oyster Growers Association, went to Japan late in January to inspect the seed being prepared there for shipment to the Pacific Northwest for planting this spring.

1957 Frozen Tuna Imports To Astoria and Seattle

Japanese frozen tuna to the amount of 11,820 tons was landed at Astoria and Seattle during 1957 for canning, according to figures by the U. S. Bureau of Commercial Fisheries' Market News Service.

Seattle got just under 60 tons of the total, but the Puget Sound figures do not include deliveries on Grays Harbor, which are believed to be much larger.

At Astoria 1957 deliveries included 9,923 tons of frozen Albacore, 1,759 tons of frozen Yellowfin, and 81 tons

Southern California Domestic Tuna Deliveries

Cumulative totals for 1958 through January 11, in tons, as reported by U. S. Market News Service.

	Albacore	Bluefin	Skipjack	Yellowfin	Bonito, etc.	Total
Clippers and						
Albacore Fleet	2		605	934		1,541
Purse Seiners			151	125		276
Total 1958						
through Jan. 11	2		756	1,059		1,817
Total 1957	55		1,920	1,775		3,757
Total 1956	20		1,718	3,826	2	5,566

of loins and discs. These latter of course are equivalent to about three times their actual weight in round tuna.

Tuna Tester Installed At New Hebrides Plant

Equipment designed by the technologists of Nippon Reizo K. K., the great refrigeration concern of Japan, to test raw tuna for "green" characteristics which would appear in the cooked flesh is being installed at the New Hebrides tuna fishing base of its related Nanyo Gyogyo K. K.

The equipment is said to have proven quite effective in detecting incipient green discoloration in the flesh of uncooked Albacore.

At the end of the year it was understood that two Japanese long-liners were enroute to the New Hebrides station. This is British territory and the refrigeration plant there was built by Japanese, Australian and United States interests.

Sales of the frozen tuna are expected to be handled by Washington Packing Co., San Francisco.

Prince Rupert Official Promoted to Winnipeg

Gordon S. Reade, Prince Rupert, B. C., former district supervisor of District 2 of the Canadian department of fisheries Pacific area, has been appointed chief supervisor of the department's central area with headquarters in Winnipeg. In his new post, Mr. Reade, 62, is responsible for the administration of fisheries matters for the government in the area extending from Alberta in the west to Quebec in the east and including the Northwest Territories. Except for war service, he has been associated with fisheries on the Pacific since 1919.

Nino G. Crivello Dies

Nino G. Crivello, 67, well known Monterey fisherman, associated with the AFL Seine & Line Fishermen's Union there for a number of years and a member of the executive board, died recently. He was also a boat owner at one time.

He leaves a wife, three daughters, and a son, John, who is fishing on the purse seiner *Twin Brothers*.

Rupert Fish Co. Opens Sales Office in Calif.

British Columbia Packers, Ltd., Vancouver, B. C., has opened its own United States sales office at 217A Burlingame Ave., Burlingame, Calif., under the name of Rupert Fish Co., Inc.

Stanley A. Sherriff, who has represented the company for some time in California, is in charge of the office, which has been distributing Rupert Fish Co. items in California, Oregon, and Washington. Mr. Sherriff will have charge of the distribution of Willapoint brand fresh oysters, Rupert brand fresh frozen, breaded and processed oysters for the United States, and for northern California. Washington and Oregon, he will have charge of the distribution of the Rupert brand of packaged fillets, steaks, heat 'n eat items.

Also from this office will be distributed bulk halibut and salmon, fresh and frozen from the British Columbia and Seattle operations of the company.

George A. Dodman has been transferred from the Toronto, Ontario operations of the company to assist Mr. Sherriff in Burlingame. He will be working on packaged and bulk items. Mr. Dodman has had 12 years of experience with the company.

Ray Brooker is another addition to the staff. Mr. Brooker has been transferred from Halifax, N. S., to Burlingame where he will be working on packaged items. He has been 20 years with the company.

Santa Cruz Canning Adds Mechanical Equipment

Santa Cruz Canning Co., Moss Landing, Calif., has recently installed a new water softener, a Knapp caser and a Knapp automatic can labeller, according to Joe Oliveiri, manager of the company.

Carl Askland Drowns

Carl Askland, a Southeast Alaska troller who formerly made his home in Seattle, was drowned in January when he fell overboard from his vessel in the vicinity of Point Baker. Mrs. Askland was fishing with him at the time.

FEDERAL PROPELLERS . . .



**TOPS FOR
RUGGED
SERVICE IN
WORKBOATS
OF ALL TYPES**

The "Captain Leffie", sturdy workboat from the yards of Gladding-Hearn Shipbuilding Corp., Somerset, Mass., will work on marine construction assignments as dredge tender and tug. For this rugged service she was fitted with a 3-blade FEDERAL wheel cast of FEDERAL'S standard super-strength alloy that sustains severe impact without damage, drastically cuts down haul-outs and far outlasts ordinary bronze. For every type of boat FEDERAL has a wheel that will give you the best in performance and lasting value. See your FEDERAL dealer and ask him about our FREE expert propeller recommendation service.



Standard Sizes in all types
thru 72" dia.

FEDERAL PROPELLERS

GRAND RAPIDS 3,
MICHIGAN

ONAN Electric Plants

**for dependable
Light and Power
on fishing craft**

There's an Onan Electric Plant the right size and type for craft of every size and purpose . . . shrimpers, trawlers, tugs, workboats of all kinds. They speed up work aboard, save time. Operate bilge pumps, compressors, radios, water systems, floodlights and other equipment. Smooth-running and dependable; compact and easy to install. Standard equipment on many new craft.

Model 5DRP—Two-cylinder,
air-cooled Diesel engine.
5,000 watts A.C.

A Model to Fit Your Craft



Model 3DSP 3KW
One-cylinder Diesel



Air-cooled models; 500
to 10,000 watts, gasoline.



Separate generators
1½ to 5KW

Write for folder

D. W. ONAN & SONS INC.

3472A University Ave. S. E. • Minneapolis 14, Minn.



For
**THE BEST
TRIP BACK**

And for true economy when buying netting, get these famous top brands of The Linen Thread Co., America's first authority on commercial fishing nets...

BARBOUR'S

Double-Knot Nylon Salmon Gill Netting.
Bonded Nylon Seine Netting—
Bonded Nylon Gill Netting.

Gold Medal

Cotton Seine Netting—Nylon Gill
Netting—Cotton Seine Twine—Filament
Nylon and Spun Nylon Seine Twine—
Nyak Seine Twine.

Order **NYAK
NETTING**

for the great advantages of Nylon
at big savings!

Pacific Coast Distributors:

Cincotta Bros.
169 Jefferson Street
San Francisco, Calif.
203 Alvarado Street
Monterey, Calif.

Oregon Marine Supply Company
Astoria, Oregon

Oregon Marine Supply Company
235 Southwest First Avenue
Portland 4, Oregon

Marine Hardware Company, Inc.
304 South Beacon Street
San Pedro, Calif.

Pacific Fishing & Trading Co.
1403 West 45th Street
Seattle 7, Washington

Marine Hardware Company, Inc.
Cooperative Building
San Pedro, Calif.

Pacific Marine Supply Company
1217-1223 Western Avenue
Seattle 1, Washington

Marine Hardware Company, Inc.
304 Sardine Street
Terminal Island, Calif.

San Diego Marine Hardware, Inc.
1520 India Street
San Diego 1, Calif.

Bill Moe says--

"Grade Labelling is Vital If Kippering is to Grow"

• Kippering of salmon and sablefish needs grade-labeling if it is to grow, in the considered view of Bill Moe of the Superior Fish Co., Seattle, one of the pioneer institutions still active in this field of cured fish packing and merchandising. He says:

"The fact that there is no requirement—not even in his own conscience or his own merchandising program—for a smoker to label his kippered salmon in a way which shows the grade of fish used puts a limit on the growth of the business.

"What kippering needs if kippering is to grow is a form of grade-labeling gillnet, seine-caught; and whether it is King or Fall. If it's black-cod, then the package should show plainly whether the fish was line-caught or trawl-caught; and whether the package contains restaurant cuts or was put up from large fish.

"If you show these things on the

package, then the retailer can buy the grade he wants to handle; and the consumer will come to understand that the difference in price is—or should be—accounted for by basic difference in the quality of the fish in the package.

"It's like some brands of canned fruits show on the can the variety contained, the approximate number of pieces, whether whole or broken, and the weight of syrup in which the fruit is packed.

"Sure, every smoker gets some junk to pack, but he shouldn't offer it under the same brand and wrapper as his top-grade. He can pack it under a standard grade and perhaps a 'neutral' label.

"I think we packers individually should adopt specific grade labelling which perhaps would provide fancy, choice, select and standard grades, for example—with the species, grade and

character of the fish contained shown plainly on every package.

"It would be a long step forward—and only by taking such steps can this business expect to grow at a pace comparable with our competitors in the food field."

That's Bill Moe's opinion; and it seems to make sense.

San Juan Advertising Won by B-C-G Agency

The San Juan Fishing & Packing Co. has appointed Botsford, Constantine & Gardner to promote its 37-odd lines of frozen fish products, it was announced by Norm McGregor, assistant general manager in charge of advertising and merchandising. Botsford, Constantine & Gardner has designated Jerry Crollard, a vice president in the Seattle office of the agency, account executive.

San Juan Fishing & Packing Co. is one of the nation's largest processors of frozen fish, packing and selling in excess of 30 million pounds annually. Most popular items in its varied line include halibut steaks, salmon steaks, filet of sole and salmon, Pacific ocean perch, rockfish and Pacific cod, breaded fish steaks, dressed smelt, Pacific oysters, halibut cheeks, crab meat, crab in shell, kippered salmon and halibut, barbecued sablefish, shrimp and breaded shrimp, scallops, and oysters.

Though future advertising plans have not been announced, the company has used television and newspaper as well as outdoor media in selected national markets in campaigns during recent years.

Milo Bell Plans New Oregon City Fishways

Milo C. Bell, Seattle engineering consultant in fishway design, has been retained by the Oregon Fish Commission in connection with the development of improved fish passage facilities at Willamette Falls, Oregon City. He will cooperate with Harlan B. Holmes, biologist, who has been working on the problem since spring.

Edgewater Plant, Monterey Sold to Properties Firm

Cannery Row Products Co., Monterey, has purchased the Edgewater Packing Co. plant at Monterey.

The plant consists of five can lines, a 15-ton Standard Steel fish meal press with Peebles dryer, Titusville and Scotch marine boiler, basket centrifuge, three Sharples Rotojector centrifuges, and a Wallace & Tiernan chlorinator. The plant is being dismantled and the machinery will be sold.

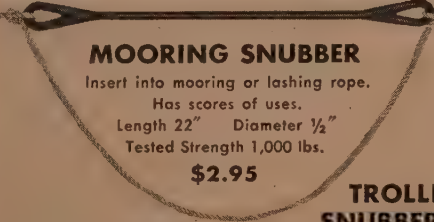


Griffith
MARINE LINE

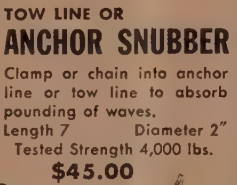


...Gets rid
of the JERK!
**LIVE
NEOPRENE
SNUBBERS**

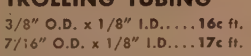
Gets rid of damaging jerks, jolts, shocks. Special formula neoprene withstands prolonged exposure to sun and salt spray.



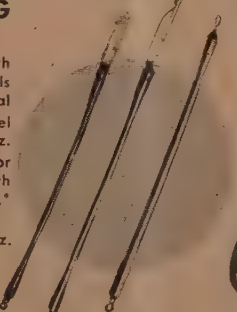
MOORING SNUBBER
Insert into mooring or lashing rope.
Has scores of uses.
Length 22" Diameter 1/2"
Tested Strength 1,000 lbs.
\$2.95



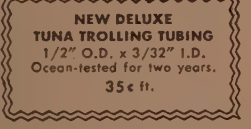
**TOW LINE OR
ANCHOR SNUBBER**
Clamp or chain into anchor line or tow line to absorb pounding of waves.
Length 7' Diameter 2"
Tested Strength 4,000 lbs.
\$45.00



TROLLING TUBING
3/8" O.D. x 1/8" I.D. 16c ft.
7/16" O.D. x 1/8" I.D. 17c ft.



TROLLING SNUBBERS
Standard 14" length with heavy metal line swivels and snaps for commercial fishing. Solid eye, swivel end \$10 doz.
Kolstrand double snap or improved No. 9 snap with swivel end \$12 doz.
*With ball bearing line swivels \$18 doz.



**NEW DELUXE
TUNA TROLLING TUBING**
1/2" O.D. x 3/32" I.D.
Ocean-tested for two years.
35c ft.

AT YOUR MARINE DEALER
... or write for literature
GRIFFITH RUBBER MILLS • 2439 N. W. 22nd Avenue • PORTLAND 10, OREGON

NORTH HILL

DIGS FAST . HOLDS FAST... BREAKS OUT EASY



Kaar's

High power voice of the sea with 150 watt input and nine crystal controlled channels, the 222A provides long range communication for ocean cruising. The sturdy, driftwood grey cabinet has a charcoal finished grill and hood. Chrome hood is available at slight extra charge. High corrosion resistance is assured by new protective coatings on cabinet and chassis. The drop-leaf chassis gives easy servicing from either bulk-head or table-top mounts. It's a trim set for trim craft.

Other voices of the sea by Kaar include:

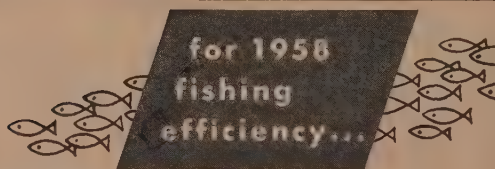
37B,
44 watt, 5 channels
248,
50 watt, 5 channels
242A,
100 watt, 6 channels



ENGINEERING CORP.

2943 Middlefield Road
Palo Alto, Calif.

All Kaar radiotelephones are Type accepted per FCC regulations effective June 1958



EDERER

NETS



The finest modern netting materials... at a sensible price!

- Ederer Royal Chinook Double Knot Salmon Gill Netting (Nylon or Linen)
- Ederer "Sta-Lok" Nylon Gill Netting
- Cotton Seine Netting
- Bonded Nylon Seine Netting
- Dyak "miracle fiber" netting
- Seine Twine of Cotton, Dyak, Filament Nylon, Spun Nylon.

EDERER PACIFIC COAST DISTRIBUTORS

THE BEEBE COMPANY
444 Southwest Macadam, Portland, Ore.

C. J. HENDRY COMPANY
2607 Byron St., San Diego 6, Calif.
27 Main St., San Francisco 5, Calif.
111 So. Front St., San Pedro, Calif.



Save TIME, save FUEL on every trip

Sperry Magnetic Compass Pilot holds your boat on true course automatically. Takes you straight to your favorite fishing grounds and back again. Saves you time and fuel every time because it holds selected course with far greater accuracy than manual steering... even in heavy seas. At the grounds Remote Controller lets you move about ship to supervise the job yet still retain complete steering control. Call the nearest Sperry district office for details.

SPERRY *GYROSCOPE COMPANY*
GREAT NECK, NEW YORK
DIVISION OF SPERRY RAND CORPORATION

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IN CANADA: SPERRY GYROSCOPE COMPANY OF CANADA, LIMITED, MONTREAL, QUEBEC

FOOD FISH MARKETING

Section of PACIFIC FISHERMAN--

*News and Views of National
Trade in Fish and Shellfish*

February, 1958

Tuna and Salmon Launch Spring Sales Promotion

• Canned fish sellers—brokers and sales departments alike—the full length of the Pacific Coast concentrated during January on building business for the future by means of promotion and advertising keyed closely to the spring's Lenten season.

Salmon and tuna sellers alike have national promotions under way.

Tuna is tied-in with another general product—cheese—and two national brands—Carnation milk and General Foods' Minute Rice—in a Lenten promotion which calls for a five weeks campaign at a cost of \$500,000. Key recipe in the project is *Tuna Rice au Gratin*, a quick, high-protein suitable for the Lenten menu.

Backing it is a schedule of full color advertising in many of the nation's large circulation magazines and newspaper supplements, together with television and radio support, and plenty of point-of-sale stimulants.

• Canned salmon promotion was in gear in time for pre-Lenten effectiveness, and is designed for a long-range effect rather than quick sales. At a time when salmon stocks available for market during the year ahead are definitely low, the salmon sales people have their sights set on building appreciation and respect for the product on the part of the consumer and food retailer.

The program is keyed particularly to the theme of education for the coming generations of homemakers, as well as food page ideas for present meal planners.

Four recipes have been selected for special featuring in the material provided for food page editors, and these will be distributed in a manner designed to avoid duplication among the 520 major papers covered, as well as the 2,700 weeklies.

• Canned salmon merchandisers gave generous support during the early part of the year to the program designed to ask Congress for action to protect the North American salmon resource

from destructive fishing of these salmon during their ocean life.

Booklets presenting the facts of the Japanese fishery and how it affects the American salmon fisheries and future were supplied by primary market distributors to their field brokers, and placed in the hands of their customers in order that the American public might be informed as to the depletion and threatened destruction of a great food resource originating in America—and that by operations and methods in which it is illegal for Americans to engage.

Salmon Terminals Quits Canned Salmon Warehousing

Salmon Terminals, Inc., the packer-owned warehousing business which for 27 years has been the principal factor in canned salmon handling and storing at Seattle is retiring from business with the expiration of its lease to Pier 24. May 31, 1958. This was announced in January by A. J. Bacon, who has been manager since the firm was formed in 1930, and who will retire.

Reason for the decision to retire from the field was inability of the company to secure adequate facilities.

The company was formed originally to operate the enormous transit sheds built by the Port of Seattle in 1930 on Pier 90 of its Smith Cove Terminals. These warehouses were designed specifically for the storage and handling of canned salmon, but were lost to the company and the Port of Seattle when the U. S. Navy purchased the property during World War II and established the Seattle Naval Station, Seattle Naval Supply Depot, and 13th Naval District Headquarters there.

A. W. Brindle Hurt

A. W. Brindle, president of Wards Cove Packing Co. and of the Association of Pacific Fisheries, suffered a broken arm in January when he fell from a tree he was pruning.

Pacific Northwest Market

Market prices currently quoted at prestime by Pacific Northwest brokers and cannery sales department, cases of 48 tins, unless otherwise specified, good quality, as reported by the U. S. Bureau of Commercial Fisheries, Market News Service:

Items and Packages	Per Case
Puget Sound	
Sockeye, halves	\$23
Sockeye, quarters	13
Alaska	
Red, tails	33 -34
Red, halves	21 -22
Pink, tails	23
Pink, halves	13 -13.50
Pink, 4-lb. (12)	24
Coho, tails	26 -27
Coho, halves	15 -16
Coho, quarters	9.50
Coho, 4-lb. (12)	26.50-28
Chum, summer, tall	18
Chum, fall, tall	16.50-17
Chum, summer, halves	11 -11.50
Chum, fall, halves	10.50
Chum, 4-lb. (12)	19 -20
King, tails	28.50-29
Columbia River	
Chinook, 1/2 oval (12)	14 -14.25
Fancy, halves	24 -26
Fancy, quarters	13 -14.50
Choice, halves	17 -17.50
Choice, quarters	10 -10.25
Silver, halves	16 -17
Silver, quarters	9.00-10.25
Tuna, Northwest Pack—	
Albacore, fcy., 7 oz.	11.50-12
Yellowfin, chunk, 6 oz.	9 - 9.25
Yellowfin, chunk, 6 1/2 oz.	9.25- 9.75
Tuna, Featured Pack—	
Albacore, fcy., 7 oz.	14.85-15.25
Albacore, fcy., 3 1/2 oz.	8.50- 9.15
Albacore, chunk, 6 1/2 oz.	10.50-13
Albacore, chunk, 3 oz.	6.50- 8
Lightmeat, fcy., 7 oz.	13.75
Lightmeat, fcy., 3 1/2 oz.	8.45
Lightmeat, chunk, 6 1/2 oz.	12.00
Lightmeat, chunk, 3 oz.	7.40
Canned Crab—	
Dungeness, 24, 6 1/2 oz.	9.50-10
King, 24, 7 1/2 oz., fcy.	29.00
King, 24, 1s, fcy.	26.50
King, 24, 7 1/2 oz., fcy.	14.60
Northwest Shrimp—	
Wet Pack, 24, 4 1/2 oz.	7.30

Japan-Italy Tuna Sales May Balance Trade

With the outlook for frozen tuna exports to the United States clouded by competitive resistance, Japanese producers and government agencies are known to be counting on developing their country's tuna-for-rice barter business with Italy.

This operation is said to have involved 10,000 tons of tuna in 1957, with the prospect that more may be delivered to Italy in 1958. This fish comes from the astonishingly productive fisheries which the Japanese have developed in the Equatorial Atlantic.

Bentley-Markey Move

Bentley-Markey, Inc., well known San Francisco importers, sales and buying agents handling fresh, frozen, and canned fish, are now established in handsome new offices at 1 Drum St. The phone number remains the same—DOuglas 2-2510.

How do you Tell the Difference?

Competitive Price Cut? Or Illegal Brokerage?

• Third wave of Federal Trade Commission complaints against canned salmon sellers in the primary market issued early in the year, creating a new stir in the food brokerage business by the varied character of the firms named.

At about the same time the FTC made public the responses made to its initial series of charges directed against four packers with sales departments.

As this issue closed, opinion was general that the FTC had not by any means exhausted its stock of complaints; and that others would be issued from time to time. Spokesmen for the firms named professed to believe that they had done no wrong, or at least had done nothing which was not common practice throughout the food brokerage business.

In answering the first group of complaints, packers' sales departments denied granting large grocery chains discounts or allowances in lieu of brokerage; or that on direct sales which do not involve brokers the market price to the chains was reduced by 5%, the amount of the normal brokerage fee. They also deny giving a 2½% reduction where only one broker is involved, taking the price differential out of the broker's commission.

One of the packers in the first flurry

of complaints admits selling a lot of 5,000 cases of Pinks at 50c per case under the original quotation; but denies that this was an illegal brokerage payment, characterizing it rather a price cut to get the business.

In general, the defendants contended that price reductions were not properly to be considered as illegal brokerage payments, but were in fact competitive price cuts designed to get the business, and would have been made at the time in question to any responsible buyer with bona fide interest in securing an equal quantity of salmon.

• There are a number of questions about the F.T.A. salmon selling complaints as yet unanswered:

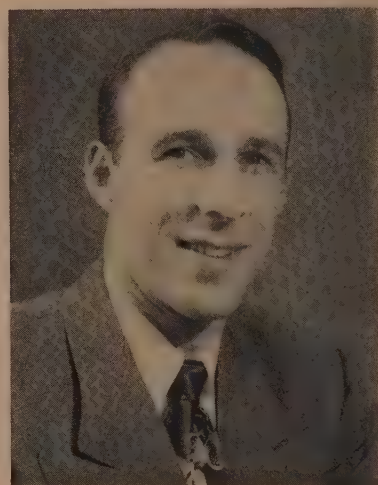
How many more companies will be involved in the charges?

Have any of those charged already accepted consent decrees? If so, won't their cases be specially complicated?

What, or who, triggered the F.T.C. investigation? And were they in turn investigated?

Won't the hearings tend to clarify salmon selling practices and perhaps draw more clearly the definition of brokerage services?

Won't the hearings produce a better understanding of the difference between a competitive price reduction designed to make a sale and an



John S. McGowan, elected a vice president of Columbia River Packers Association, Inc., and assistant to the president.

illegal brokerage payment?

Won't they tend to draw once and for all the rules under which salmon may, or must, be sold?

If not, what will they accomplish?

Bill Eardley Jr. Heads N.W. Fisheries Association

William C. Eardley Jr. of Eardley Fisheries Co. was elected president of the Northwest Fisheries Association, comprised of Washington and Oregon operators and wholesalers at a November meeting.



National Sales Representative
Robert L. Stix, Inc., 260 West Broadway, N. Y. 13

IN CHICAGO BUYERS' Phone FROHMAN for Fish!
A COMPLETE SELLING ORGANIZATION

COMPLETE TRADE COVERAGE	50 YEARS OF SALES PROMOTION AND MARKETING EXPERIENCE	NATIONALLY RECOGNIZED HIGH STANDARDS OF SERVICE	SPECIALISTS IN BRAND BUILDING
RETAIL SPECIALTY WORK	CREDIT INVOICING AND TRAFFIC SERVICE	RECEIPT AND DISTRIBUTION OF CARS	CONSIGNED STOCK SELLING & RECORD KEEPING

L. H. FROHMAN & SONS Sales Agents
FOR PRODUCERS OF CANNED AND FROZEN FISH AND SEA FOODS
312 NORTH DEARBORN STREET CHICAGO 10

MILD CURED SALMON CANNED SALMON

ICI-FRESH
BRAND
PACKED IN THE NORTH PACIFIC

Frozen
SALMON AND HALIBUT
OXENBERG BROS., INC. - BROOKLYN, N. Y. - SEATTLE, WASH.

FRESH SALMON FISH FILLETS

OXENBERG BROS., INC.
276-280 Metropolitan Ave., Brooklyn, N. Y.
Bell Street Terminal, Seattle 1, Wash.

Fish Promotion is Paramount To Calif. Seafood Institute

● Review of accomplishments in 1957 and work to be done in 1958 by members of the Northern California Seafood Institute was presented recently by J. Lloyd Turnacliiff, president, Meredith Fish Co., Sacramento.

Mr. Turnacliiff stated that approximately 54 bills were "worked" by John Gilchrist, secretary-manager of the institute, and legislative representation. Of this number three new bills of the institute were signed into law (crab, lobster and catfish). All but one detrimental bill were defeated. The closure of commercial fishing on the Sacramento River was a disastrous blow to the industry, stated President Turnacliiff.

Fish Week Parade, headed by Neil Taylor, Norfish Sales Co., Oakland, was a great success. The highlight of it was the trucking of a freshly caught whale up Market street, San Francisco. This project was headed by John Mar-

tin, John Martin Food Broker, and it gained national publicity. During Fish Week a highly successful food tasters party on Fishermen's Wharf was given for home economists and food publicists.

During the year 11 new members—Alroy Packing Co., Atlanta Trading, Bentley-Markey, Inc., Del Monte Fishing Co., 4 Crabs Food Center, M. F. Trading, Lincoln Shrimp, J-D Packing Co., Romeo Fish Co., Stoller Fisheries, and Sal & Dom Fish Co.—were welcomed into the institute.

Among the new projects started in 1957 scheduled for study during 1958 are the following:

1. Legislative processing of the claims filed against the state by those commercial operators who were deactivated by the legislative closure of the Sacramento River.

2. Meeting in Monterey January 17-18 to consider the feasibility of

forming a state-wide legislative council.

3. Vocational education program: a study course conducted by the San Francisco Unified School District. Subjects: cost analysis, profit and loss, marketing, distribution, etc.

4. Fishermen's Fiesta at Fishermen's Wharf, San Francisco. Tentative for April.

5. Fish Advisory Board (State). A major project designed to follow a pattern established by the Wine Advisory Board (same as peach, lemon, turkey, etc.). For the promotion of the industry as a whole.

6. Marketing distribution program. Plentiful supply program. A new promotion proposal in cooperation with the U. S. Fish & Wildlife Service and the U. S. Department of Agriculture.

7. School lunch program. In cooperation with the U. S. Department of Agriculture and the State Department of Education. To increase the use of seafood for school lunches.

8. NFI convention in San Francisco during April.

9. National Fish Week.

They Add Up To A Lot of Sales!



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seafoods



Columbia River Packers Association, Inc.
Astoria, Oregon

California Imports of Frozen Tuna

Cumulative data in tons for 1958 through Jan. 11, and for other years to the nearest comparable date. Data from U. S. Market News Service.

	Albacore	Skipjack	Yellowfin	Unclassified	Total
San Francisco			190		190
San Pedro	708	226	1,165		2,099
San Diego					
Total to Jan. 11	708	226	1,355		2,289
1957	330	1,262	1,118	73	2,783
1956	511	428	1,175		2,114

Berger & Plate Sales To Handle Brokerage

A new firm Berger & Plate Sales Co., 50 California St., San Francisco, has been formed as a separate corporation from Berger & Plate Co. for conducting the food brokerage business now being carried on by Berger & Plate Co.

Officers of the new company, Berger & Plate Sales Co. are: H. R. Plate, president; D. L. Berger, vice-president; E. A. Durrell, secretary-treasurer; and J. C. Hawley, assistant secretary.

Among the canned seafood items to be handled are: Columbia River Packers Association, "Bumble Bee" brand tuna; and G. P. Hlaftery Co., "Pioneer" minced clams.

Thirteen additional personnel are employed by the new company in offices in San Francisco, Sacramento,

San Jose, and Fresno.

The address of the new firm is the same as Berger & Plate Co., 50 California St., San Francisco, and the phone number, YUKon 2-1020 remains the same.

Junge-McGregor Expands In Seattle Brokerage

R. D. Junge, head of Junge-McGregor, Inc., Seattle food brokerage house active in the fish business, in January announced merger with the firm of Bowman-Furseth Co. Name of the company remains Junge-McGregor, Inc.

Paul B. Bowman and Byron O. Furseth join the firm as principals and directors, as does George Anderson, formerly with Mailliard & Schmiedell.

Trixler Names Engel For Southern Oregon

J. Thomas Trixler, general manager of Trixler Brokerage Co., Portland, Ore., announced late in January that George Engel has been appointed as the house's Southern Oregon district manager with headquarters in Ashland and responsibility for the area including Medford, Grants Pass, Klamath Falls, Northern California, and the coastal area.

Beside the company headquarters in Portland, Trixler Brokerage also maintains a branch at Eugene.

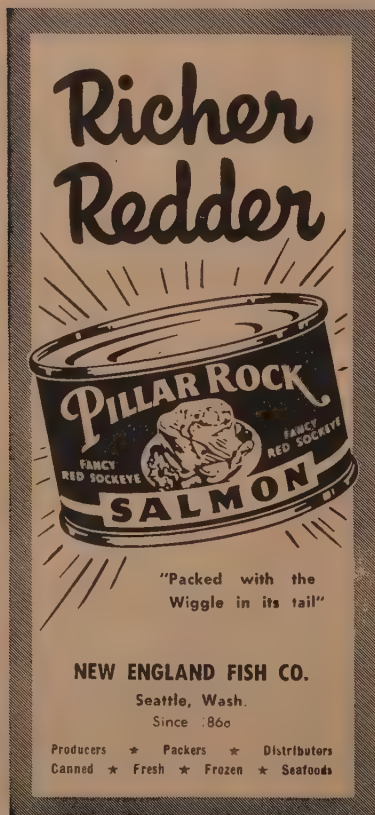
Canadians See Bright Fish Prospects in 1958

Optimism concerning 1958 salmon prospects was expressed by John M. Buchanan, chairman of B. C. Packers, Ltd., when addressing a group of newspaper people in Vancouver recently. As a means of acquainting its staff with the facts of industry, *The Vancouver Province* arranged to have most of its key writers attend a seminar at which Mr. Buchanan and various other executives dealt with different phases of the fishing business.

Mr. Buchanan, as well as other leaders of the fishing industry in British Columbia, pins his hopes on the Adams River run of Sockeye which is expected to be a big one.

Norman Hyland, vice president sales; E. L. Harrison, vice president industrial relations, were among those participating. Mr. Hyland said that with the United Kingdom still under buying restrictions, Australia closed by a dollar shortage, and the U. S. tied to protectionist policies it had been necessary to push fish sales in the one market unaffected by arbitrary limitations—Canada.

Mr. Harrison predicted that the greatest technological strides in the industry will be in the realm of fish processing.



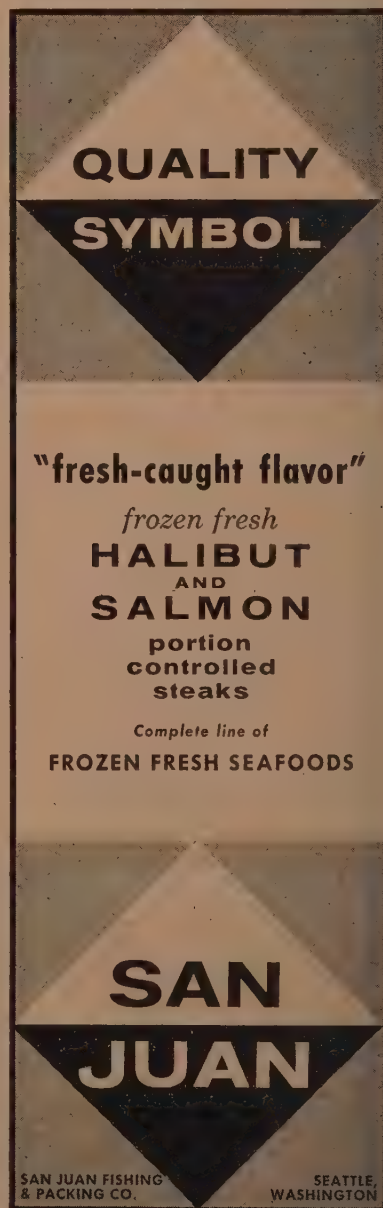
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"Gussie M" Twice Escapes

Gussie M., 40' combination boat owned by Jack Canciamille, Monterey, had two narrow escapes from Davy Jones Locker last month.

First she broke from her moorings and drifted against Municipal Wharf No. 2, then while being towed by a motor life boat from the Monterey Coast Guard Station she hit an angle iron brace on a float, had a hole knocked in her bow and started to sink. The Coast Guard and the Monterey Fire Department finally pumped her out, and plugged the hole.

Two Crabbers Sink

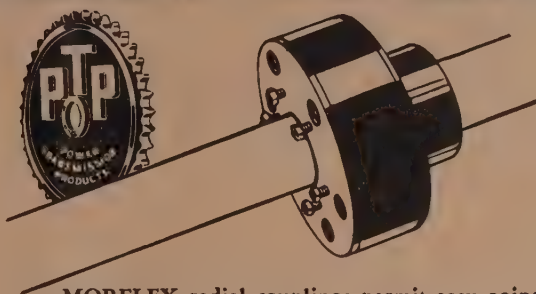
Two anchored crab boats, the *Poodle John* and the *Scragg* sank at their moorings at Crescent City last month when winds up to 50 mph whipped the waves in the small boat basin. No crewmen were lost.

Other boats were kept afloat by continued pumping operations by crews.

"Cape Ommaney" Bought

Eddie Schnaubelt Jr., well known Fort Bragg fisherman, purchased the troller *Cape Ommaney* from Seattle interests. He installed a Ross depth sounder purchased from Johnny Ghens at the Noyo Store.

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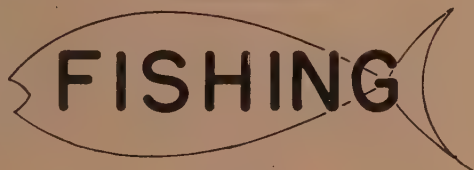
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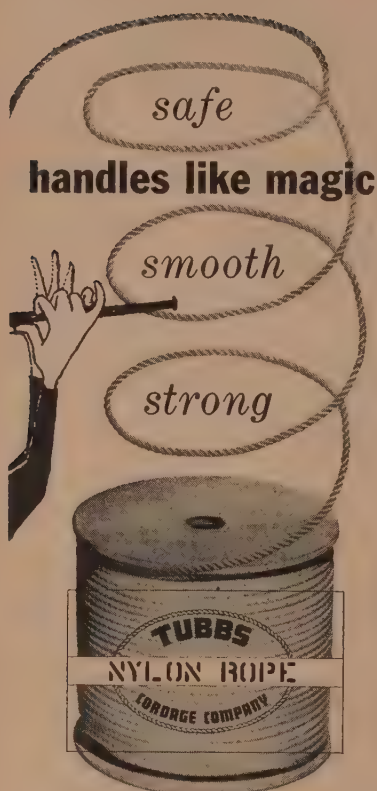
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LINEs and LEADERS

Eastman's Tenox Protects Quality of Fish Meal

A product Eastman Tenox BHT, has been developed by Eastman Chemical Products, Inc., Chemicals Division, which according to Alfred S. King, Wilson Meyer Co., San Francisco sales representatives for Eastman Chemicals in the 11 western states, will extend the fresh life of menhaden and other fish oils by a factor of approximately 30.

Mr. King states that by using the procedure outlined in a brochure published by Eastman Chemical Products, Inc., the fish meal's resistance to spontaneous combustion can be substantially increased.

Copies of the brochure "Tenox BHT in Fish Meals" can be obtained by writing Mr. King, who is in charge of sales of the product for Wilson Meyer Co., at 333 Montgomery St., San Francisco 4, Calif.

Williams & Lane Are Granted G.M. Diesel Distributorship

Williams & Lane, Inc., with a modern industrial diesel engine sales and service establishment at 1077 Eastshore Highway, Berkeley, Calif., have been appointed industrial, petroleum and marine distributor for northern California by the Detroit Diesel Engine Division of General Motors Corporation.

Although the firm is a new one in central California machinery trade circles, James R. Williams and Nick L. Lane, principals, have been actively identified with the diesel engine industry for many years. Mr. Williams, a former member of the General Motors diesel staff, is president and general manager, while Mr. Lane, who formerly was sales manager of the Atlas Diesel Engine Co., is vice president and sales manager.

Beside Detroit diesels, Williams & Lane handle other General Motors products, including Allison transmissions and torque converters, Electro-Motive diesels and generating sets; and in addition will manufacture in its own shop electric generating sets, control panels and switchboards engineered for specific jobs.

Other staff members of the firm are W. M. Glade, secretary-treasurer; R. L. Smith, chief engineer; Jack Jones, service and production manager; and Harry Flosi, parts manager.

The company buildings and facilities are those formerly occupied by West Coast Motors.

Cal-Marine Radiophone Now in New Home

Cal-Marine Radiophone Co. is now in its new home at 1018 Columbus Ave., San Francisco. The phone number remains the same—ORDway 3-2552.

The new location gives the marine electronics firm much more room. There is ample storage space, shop space, office, and an attractive show room.

The firm was founded six years ago by Bob Flowerman and Bob Gifford. The company sells Apeldo and Raytheon marine electronic devices, and offers complete installation and service facilities.



William Thompson, announced as new inboard engine sales and service representative for Pacific Marine Supply Co., Seattle.

"Bill" Thompson to Handle PMS Inboard Engine Sales

William "Bill" Thompson, well known in Puget Sound and Alaska marine circles, has been named to fill a newly created position as inboard engine sales and service representative for Pacific Marine Supply Company, Robert M. Ladd, vice president and general manager, announced recently.

Mr. Thompson's affiliation with Pacific Marine Supply is in the nature of a homecoming as he was in the firm's service department from 1936 to 1944, Mr. Ladd said.

For the past 20 years, Mr. Thompson has been employed in various positions in the maritime industry in the Puget Sound area and Alaska. For several years he was port engineer for Alaska canneries.

"Mr. Thompson's years of service in the marine field will enable Pacific Marine Supply to give better service to its customers needing advice on engine and other marine installations," Mr. Ladd declared.

Exide Announces New 8-Volt Marine Battery

A new heavy-duty 8-volt battery has been announced, rounding out a complete line of Exide marine batteries marketed nationwide through marine distributors and dealers by Exide Industrial Division of The Electric Storage Battery Company.

Called the Exide Sure-Start, the battery is available in 105, 150 and 175 ampere-hour capacities. It is designed for use on boats with 32-volt electrical systems.

Positive plates of the Exide Sure-Start are constructed of a patented corrosion-resistant grid alloy.

GOX active material, another exclusive development of The Electric Storage Battery Company, adds to the performance characteristics of the Sure-Start.

Spun glass separators, highly resistant to chemical and mechanical damage, permit the electrolyte to penetrate freely while providing superior plate insulation.

With this addition to its line, Exide now offers 6- and 12-volt Exide Ultra Start, Sure-Start, Hycap and Startex batteries; 8-volt Sure-Start and Ultra Start LXM batteries; many sizes of famous Exide-Ironclad batteries; Exide testing and charging equipment; and outboard motor power packs.



Marine Hardware Co. had this attractive display at the new home in San Pedro. The American Marine Paint Co. exhibit, featuring Hi-Tex—Triple "C," and Allproof varnish, gave a salute to the store, one of the most modern and efficient anywhere. Principals and employees of the firm were enthused over the new working quarters.

New method offered for crankpin grinding

Giant Crankpin Service of Los Angeles reports that its Intheblok Crankshaft Grinder precision-grinds crankpins 4" to 12" in diameter in the engine block. With Intheblok, Mr. O. M. Hanson, owner of the service, precision grinds crank pins to .001" tolerance for taper and .001" for out-of-round in a matter of hours. Conventional grinding methods require days and even weeks of down time, Mr. Hanson reports.

By means of a flexible cable drive, the Intheblok Crankshaft Grinder can work in exceedingly close quarters in the engine room without disturbing engine mountings. Intheblok crankshaft grinding is available from Ensenada, Mexico, to Ketchikan, Alaska. For further information, write O. M. Hanson, Giant Crankpin Service, 4715 Hollywood Blvd., Los Angeles 27, California.

Detroit Diesel Expands Plant To Serve Marine Industry

Construction has started on a 289,000 square foot addition to the General Motors Detroit Diesel Engine Division plant in Detroit.

Clyde W. Truxell, general manager, said completion is expected next May. The new building will house all final assembly, testing, and shipping facilities.

An entirely new production system will

be installed, including the addition of two new assembly lines for a total of five assembly systems. The layout revisions will be made without interruption of production.

This is the ninth plant expansion program since Detroit Diesel's founding in 1937. The new addition will increase total floor space to approximately 1,520,000 square feet. There now are six main buildings and a laboratory on the Division's 120-acre site.

Detroit Diesel produced its 500,000th engine in June. Since its founding the Division has built and sold engines totaling more than 73,000,000 horsepower.



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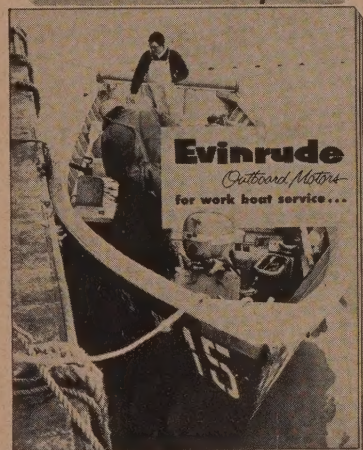
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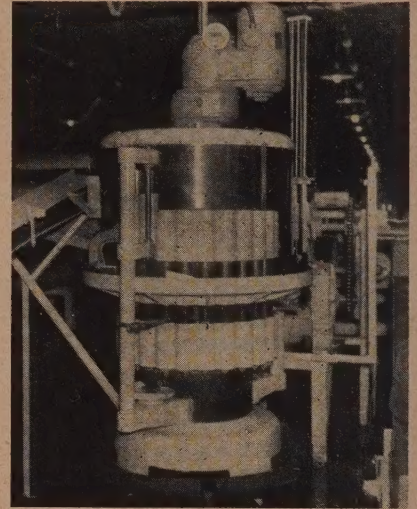


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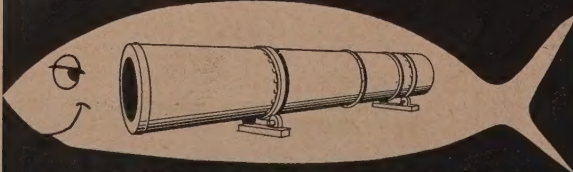
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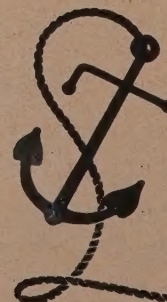
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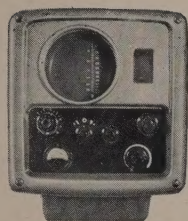
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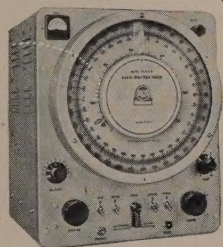


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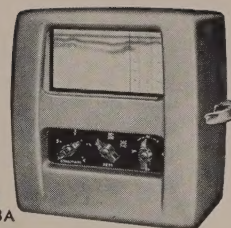
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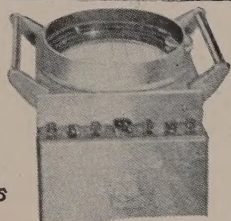
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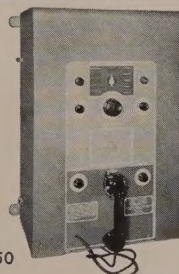
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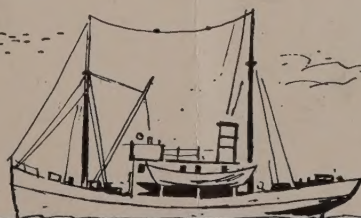
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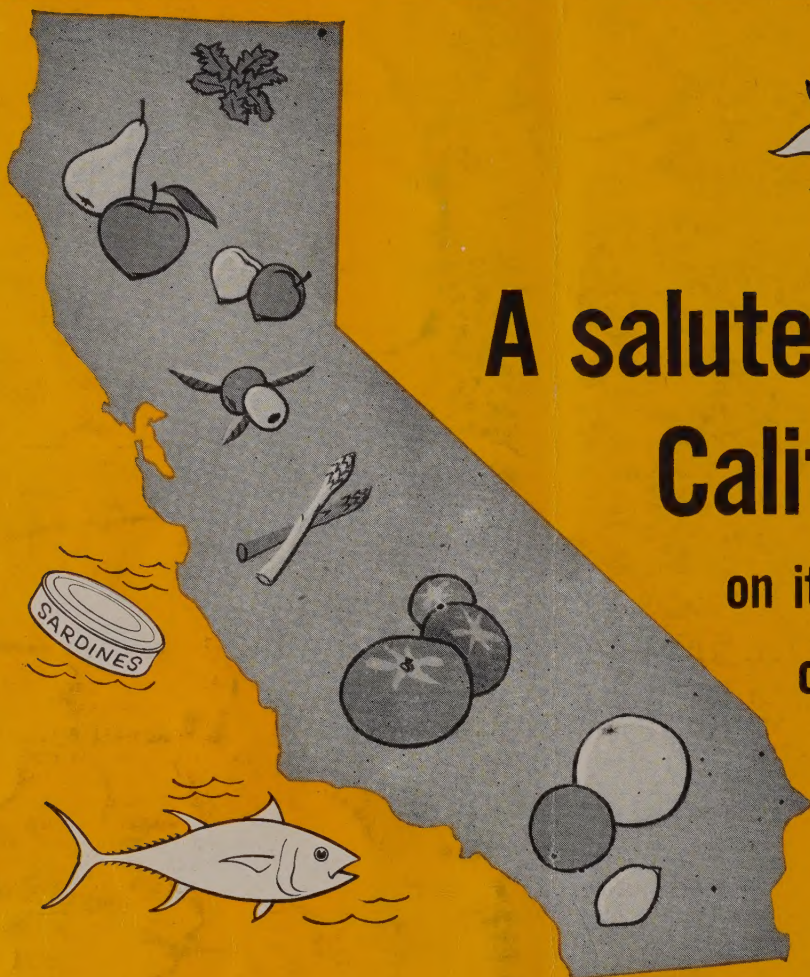
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